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Agriculture, Horticulture, and Rural Economy.

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"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." Virg.

Sixth Series.

BALTIMORE, SEPTEMBER, 1869.

Vol. IV.—No. 3.

SEPTEMBER.

"And as the year hath first his jocund Spring,
Wherein the leaves, to birds' sweet carolling,
Dance with the wind; then sees the Summer's day
Perfect the embryo blossom of each spray.
Next cometh Autumn, when the threshed sheaf
Looseth his grain, and every tree his leaf."

Work for the Month.

WHEAT SOWING.

To the grain grower this month is of special importance in the preparation for wheat sowing and getting the seed safely committed to the ground. It should be known generally that in some of the best cultivated sections of Maryland, good farmers practice seeding early in this month. The red wheats have been sown much of late years to the general exclusion of the white, and seem to admit of being sown earlier than the latter.

The arguments in favor of early seeding which we have constantly urged have lost none of their force, and we would make for this latitude the 10th of September and the 15th of October the limits of seed time, getting through with it as early as practicable after the first named.

Manures.—If stable and barn-yard manures are to be applied, put them as early as practicable on the land after the principal ploughing, provided they are not so coarse as to interfere with the seeding operations. In that case apply them immediately after seeding, broadcast from the cart.

If commercial fertilizers are to be used, ap-

ply on land of fair quality what may be equal to two hundred pounds of best Peruvian guano to the acre. The articles offered for sale in the market are of various quality, many of them very good. The combinations of Peruvian and phosphatic guano, or their equivalents, are the main ingredients, and furnish usually the specific elements needed.

Putting in the Seed.—We recommend, without qualification, the use of the drill, with guano attachment, for putting in seed. There is no question, after many years' experience, of the great economy of seed and labor in the use of this valuable implement. The insurance against winter killing and the general vigor of the growth afford a security also as to the success of the crop, which is of great importance. If the drill be not used, the gang plough is the best implement; cover with a light furrow. On corn and tobacco land seed without breaking the ground first, using any implement which will cover it sufficiently. If the corn ground be grassy, a sharp-tooth drag-harrow run in one direction and immediately back in its own track, will comb off the grass effectually.

Quantity of Seed to the Acre.—The common practice varies materially, from a bushel and a peck to two bushels broadcast, and at least a peck less for drilling.

Preparation of Seed.—It is advisable always to guard against smut by some preparation of the seed that will cleanse it thoroughly. The simplest that is also effectual, is to wash in brine, pouring the grain slowly in, skimming off carefully everything that floats, and after

draining well, sprinkle with fresh slaked lime or dry plaster.

Let it be borne in mind, as to this important crop, that thorough preparation and ample manuring will, on suitable soil, almost insure success in any season, and that without these, scarcely any crop is so uncertain.

RYE.

This grain should be sown as early in the month as practicable. It grows better than wheat on sandy and very dry lands, and while it should be always manured on thin lands, on which it is generally grown, it is not so dependent as wheat on the manure, and will be satisfied with a smaller supply. A bushel of seed to the acre is enough.

Where wheat has failed very much, rye may, in a measure, take its place to advantage, especially on the lighter lands. Prepare and sow as advised for wheat. If pasturage and cutting for early green food is the object, a peck or half bushel more of seed per acre may be used.

TIMOTHY.

Timothy seed may be sown with wheat or rye, one peck to the acre.

TOBACCO.

This is a most important month to the tobacco grower. The worms must be subdued thoroughly before taking the crop to the house; indeed, all other work must give way to this until we are rid of them. Taking out the suckers may be carried on at the same time. This work must be continued up to the time of housing, that no tobacco go to the house with growing suckers in it.

Topping.—The topping should be continued from time to time, as the plants in sufficient number show the flower-bud, up to the 15th of the month, when all the remainder of the crop should be topped down to leaves of six inches. They will then make a good growth in time for cutting very early in the month of October.

Cutting.—The fitness of the crop for the knife is soon learned by observation. A peculiar, rich mottled green of a yellowish cast, but very different from that of a young growing leaf, indicates the maturity of the plant. It is desirable of course to house the crop as early as possible after it has reached this state. It should not be cut, however, when wet with rain or dew, both because the moisture is objectionable and the tobacco is then extremely

brittle and liable to be broken in handling. After a rain, which washes the gum off the leaf, it is better to let it stand a day or two to thicken. When cut during the warm part of the day it may be picked up almost immediately after the cutters. It is not then liable to break if handled carefully, and should not lie long in the sun.

Housing.—Hanging on scaffolds outside of the houses, sometimes in the field, was formerly much practiced, and is to some extent now, for the purpose of yellowing the crop as much as practicable in the sun, and also of allowing it to wilt, so that it may occupy less space in the house. It is doubtful whether the advantages are so decided as to compensate for the extra labor and the damage sometimes done after some days of curing by exposure to a continued rain.

All possible expedition should be used to get the crop secured as early as possible after it is ripe enough, and great care taken in having the work properly done. The hanging in the house at such distance as to give room enough for the plants after having wilted, to allow the passage of the air, without an unnecessary waste of room, is a work of judgment which should be entrusted only to an experienced hand, and should also be carefully supervised.

CORN.

Cutting Corn.—If the ground is to be cleared for small grain, the corn may be cut off in this month. It should be allowed to mature well before being cut, and care must be taken not to run the risk of heating by putting it in too large shocks. The cutting may be done when the shucks or caps have turned white. Cut close to the ground, that the stumps may not be in the way of after cultivation.

Tops and Blades.—It should be understood that these are always taken at considerable expense to the crop of corn, and should not be gathered except where it is made necessary by the absence of good hay for the supply of working stock. The blades make particularly good food for working or driving horses during the summer season, but taking cost of labor and loss of corn into account, they can be very advantageously replaced by good timothy or other hay. Let them, however, be saved with much care, and as soon as sufficiently cured, put into a well-made stack, or in the house.

The Vegetable Garden.

SEPTEMBER.

Cabbage.—No garden should be without a sufficiency of early greens, cabbages, &c., and this month should begin the necessary preparation for them. Sow early York and other cabbage seeds after the middle of the month. It is well to make two or three sowings, at short intervals. Make the beds where it will be convenient to water them well, should the weather be dry, that early germination and growth may be insured. Top-dress well with plaster and ashes, or any good fertilizer, as soon as the plants come up, and repeat the dusting often if the fly attack them.

Good strong plants are needed for fall planting, but if too forward they are likely to run to seed in spring, instead of loafing.

Cauliflower.—The same treatment is proper for cauliflower plants, except somewhat later sowing, as being even more liable than the cabbage to run to seed.

Spinach.—Hoe and clean growing crops of spinach, and thin to three or four inches apart, to afford room for a strong growth of plants. Prepare by thorough digging and manuring, this month, a bed for winter and spring use.

Lettuce.—Sown last month should be set out in well prepared ground twelve inches apart, whenever they have size enough. Water freely after planting, if the weather be dry. In the latter part of the month prepare a bed for planting out from seed sown last of August, to be protected for winter and spring use. These should be planted six inches apart each way, and in spring every other one taken up and put into a separate bed.

Radish.—Early this month sow radish seeds of the early sort.

Celery.—Earth up celery as the plants advance, but always in dry weather, and taking care not to smother the central bud.

Small Salading.—Sow every ten days the different sorts of small salading for a succession of crops.

Turnips.—Hoe and thin out turnips in dry weather.

Garden Herbs.—These of every kind should be gathered and dried. Herbaceous plants, medicinal and sweet herbs, may be increased by parting the roots and planting in moist weather, the latter part of the month. Water,

if necessary, till they be rooted. Plants from seed sown in the spring should also be set out.

Seeds.—Save and put away carefully all seeds.

The Fruit Garden.

Failing Fruit.—Let the fruit that falls before ripe be carefully gathered up and thrown to hogs, or otherwise destroyed.

Strawberries.—Make plantations of strawberries this month. Dig the ground deep, trench it if you can, and manure heavily with stable manure. Rich compost is best, but use any you have, so it be enough. Give three feet of space between the rows, and twelve to eighteen inches in the row.

Grapes.—Keep the ground clear of weeds and the vines well tied up, to give the fruit full benefit of the sun for ripening. Birds and insects are likely to prey upon your grapes as they ripen. Choice kinds may be protected with gauze bags, and vials of honey or sugar and water hung up to attract wasps, &c. It is worth while to use means to frighten off birds about sunrise and sunset, when they are most destructive.

THE BEST MARKET PEARS.—If a farmer were to say to us that he was about to plant twenty-five pear trees for profit—that is for market purposes—and that he desired a suggestion as to the varieties and number of each variety he should set out, we would have no hesitation in giving him the following list: Four Early Catharine, four Juliana, five Manning's Elizabeth, three Bartlett, five Seckel, and four Lawrence. These ripen in the order they are placed.

It appears that these varieties do well everywhere, and are therefore particularly adapted to general cultivation. They are very productive, the trees hardy, and vigorous in their growth, and the fruit generally perfect. The Early Catharine and Seckel are not early bearers, but when they once commence they seldom fail in giving an abundant crop.

In purchasing the trees be careful to select good specimens; have them taken up with all the roots possible; transplant with every attention; stake firmly, placing the stakes at any angle, with the head to the northeast; keep the ground stirred two feet from the stem all around; and allow no cattle to disturb them.—*Ger. Telegraph.*

For the "American Farmer."

Silk Culture.

(Continued from the August number.)

The coition would last twenty-four hours, but as this would weaken the female, they are separated after five to six hours. This is done by taking hold of the butterfly by the body and wings and tearing them apart. The males are thrown away, provided they are not to be used again. The females are at once placed on a linen cloth, which is hung on the wall, where they deposit their eggs, amounting in all to 500. At the last eggs are apt to be barren, it is advisable to take the females off twenty-four hours after their separation from the male. After about twenty days the eggs have reached their maturity. Their color is now ash gray. When the linen on which the eggs are is perfectly dry, it is taken from the wall, folded in strips, and taken to a place where the temperature in summer is not more than 15° Reaumur, and in winter not below the freezing point. These cloths have to be protected from mice and rats, and opened every two weeks, to see if the eggs remain sound. Small shipments of eggs is best done by covering the eggs with some layers of fine paper and leave the eggs on the cloth. If the eggs have to be shipped in large quantities, the linen is moistened, and the eggs scraped off with a wooden knife. As soon as the eggs have been dried well, they are packed in tin boxes, bottles or cane joints. Good eggs are recognized by a grayish color, with a red tinge. If squeezed between the nails they pop with a slight noise. The fluid inside must neither be transparent nor thin.

The process of hatching is as follows: In the beginning of April the linen containing the eggs is folded together several times and laid in a tub of rain-water for six minutes, then taken out and the water allowed to leak off for some minutes; then the linen is spread on a table and the eggs scraped off with a wooden knife and laid in water. All eggs swimming on the top of the surface are thrown away, as they are barren. The water, with the eggs, is poured on a linen cloth and fresh water poured over. Finally, the water is let off, the eggs spread on a dry piece of linen and dried, though without any artificial help or the sun. As soon as the eggs are perfectly dry, they are placed in the hatching box.—This apparatus is made of tin, with double sides, top and bottom; it contains drawers

three inches high, the bottoms of which are of wire-work, covered with paper, on which the eggs are placed, and again covered with paper, perforated with holes as big as a pea. On top of this paper small twigs of mulberry are placed, and as soon as the worms are hatched they will creep through the holes for their food. Behind each drawer is an opening four inches square. The apparatus is heated by a spirit lamp underneath, and the heat is circulated between the double sides. The temperature of the first day has to be 14° R., which is daily increased by 1° until it reaches 24°. Every day the eggs have to be stirred. Should unfavorable weather prevent the mulberry trees from producing their leaves in time, the silk-worms can be kept back and prevented from coming out by keeping the temperature on the same point without increasing. Should the contrary happen, the development can be hastened by increasing the temperature as much as 2° per day. As soon as the eggs appear whitish, which will be the case after the ninth day, the silk-worms are formed. On the first day few will appear, and it is advisable to throw these away, as well as those appearing after the third day. Should it meanwhile be desirable to preserve these first ones, then they have to be placed in a cool place and only half fed, which will keep them from growing. This has to be done in order to prevent them from disturbing the weaker ones. The later ones come out after the third day; if to be preserved, they have to be placed in a warm place and provided with double the quantity of food.

By this proceeding, all the silk-worms will have attained the same strength and size, and can be placed together and fed together.—Where silk culture is carried on in a large scale, the best plan is to place the worms of each day by themselves and keep them separated during the whole process. The silk-worms have to be provided with so much space during the different periods of their existing, that there always would be room for another one between every two. The expansion of place is best performed by placing their feed a little further off, and they will crawl to it. The food of the silk-worm is, as we know, the mulberry leaves. To provide them in sufficient quantity and of good, if possible, superior quality, is the main point. If the leaves are affected by honey-dew, which is very injurious to the worms, they must re-

peatedly be washed and dried, if necessity compels to use them. Also wet leaves, either by rain or dew, are injurious; they must be spread and dried before they are used. The stripping of the leaves has to be done from below and upwards; if stripped from above downwards the limbs, the many buds would be destroyed and the tree injured. The worms are, most of the time, fed every six hours, at 4 A. M., 10 A. M., 4 P. M. and 10 P. M. If they exhibit a great appetite, which is the case if they have eaten their meal in less than an hour, then small meals are given between, about half as much as a full meal. During the first three or four periods of their existence it is necessary to chop the leaves fine before feeding.

THE DIFFERENT PERIODS OF THEIR EXISTENCE.

The silk-worm has five different periods of existence. The *first* period lasts five days; they only occupy a small space. The temperature must be 19° Reaumer.

First day.—After they have been placed on the hurdle they receive 14 ounces fine chopped leaves, (worms of 1 oz. of eggs.) The first meal has to be the smallest, the others to be increased successively. After one, or one hour and a half, they have done eating, and keep quiet until the next meal.

Second day.—The quantity of food is increased to 18 oz. and fed the same way as the day before. At every feeding there must be taken notice if more space is required, and if so, the feed placed accordingly. As the worms produce very little excrement at this period, they need not be cleaned.

Third day.—The worms show a great appetite, and there will be required for their four meals at least three pounds leaves, well cleaned and chopped. If this feed has been devoured within an hour, a half feed has to be given between the regular meals.

Fourth day.—On this day the appetite of the worms decrease, on account of the approach of their casting their skin. There will only be required 22 oz. of leaves for the four meals. This day the first meal must be the heaviest and the other meals decrease gradually. The space must be increased, that they may not disturb each other when they go to sleep, which will be in the evening.

Fifth day.—Only 8 oz. fine cut leaves required, the quantity to be regulated by the number of worms still awake. On the even-

ing of this day all the worms will be asleep: in this condition they remain for 36 to 40 hours. The first casting of their skin takes place and the *utmost* care must be taken not to disturb them *the least*. As their evaporation at this time is very great, the air has to be renewed by opening the windows. The required temperature 18–20° Reaumer.

L. A. HANSEN.

(To be continued.)

For the "American Farmer."

How to Make Superior Cider.

MR. EDITOR: As the time for making cider is approaching, it may be of interest to some of your readers to know "how to make a superior article." The first condition is to select the proper kind of apples. Sweet apples are totally to be excluded, as they are unfit to produce good cider. Juicy and sour apples are the best adapted. Next, it is a necessary condition that the apples are *ripe*. When ready for gathering, straw has to be spread under each tree to prevent the apples from being bruised. After gathering they have to be left for some days in the open air, and every apple which shows the least sign of unsoundness removed. The sound apples are placed in heaps in open air to obtain the proper degree of ripeness, which will take from two to three weeks. If frost should set in, they are protected by straw. By this process the apples develop their full taste and aroma. After having obtained the proper maturity in this way, they are ready for the press. During pressing, it is *absolutely* necessary to observe the *most rigid* cleanliness to prevent the formation of acid. If this once has taken place, the cider is spoiled, that is, it can never more be made a superior article. It is often practised to let the juice stand for several days, stirring it frequently. The object is to obtain a darker color and more brightness. This is an error. The cider *always* loses by this treatment. To obtain brightness quick, the proper way is to mix the apples with some crab apples or bitter winter pears. These contain a considerable amount of *tannin*, which possess the quality to unite itself with all the material contained in the cider averse to clearness and durability. This combination is *indissoluble* both in wine and cider, and settles on the bottom of the cask, clearing the cider. The proper proportion to be used is, one part of crab apples or

bitter winter pears to five parts of apples, all pressed together. After pressing, the fermentation of the juice takes place. For this purpose a cask is taken, one end knocked out, and being placed on end, the juice is poured in and covered lightly. These casks, of course, must be cleaned *most carefully*. After some time the fermentation commences, and will produce a foam on top, which has to be skimmed off with a skimmer several times through the day. This fermentation will last for several days, and then the formation of foam will decrease. This is the time to draw the juice on the casks intended for its keeping. These *carefully cleaned* casks are placed in a cellar, which must *not* be damp. If the cellar is not dry, the casks can be stored in any other dry room where the temperature in summer does not exceed 55°, and in winter does not reach the freezing point.

These casks are filled with the cider to about two inches from the bung-hole, and a tin tube inserted. This tube has a bend or knee; one end is some longer and inserted, *air tight*, in the bung; the other (shorter) end is put in a vessel containing water, placed on top of the cask near the bung. It has to extend two or three inches into the water.—Through this tube the air arising from the fermentation in the cask can escape, which it does by forming bubbles in the water, and the exterior air, which so easily changes the fermentation into vinegar fermentation, is excluded. This little vessel with water has to be watched closely by applying the ear to it. As soon as the noise in the water ceases, the time has arrived to draw the cider from the cask to separate it from the dregs, which are left at the bottom. Afterwards the dregs are filtered through flannel, and the clear cider gained mixed with the rest. This cask is nearly filled and the tube inserted as described above.

The casks intended for the cider must beforehand be well *sulphured*. By placing the cider in such casks, the cider does not come in contact with the ordinary air, by which the troubling of the cider is prevented. The cider also absorbs the sulphured air, by which fermentation is *stopped*. This last effect of the sulphur is of the utmost importance, as the stopping of the fermentation allows the impure substances to settle on the bottom, and the cider becomes clear. After some time the sulphured air will evaporate and the fermenta-

tion, which has been stopped by its presence, will again commence and throw the dregs on the surface. Before the return of this second fermentation the clear cider has to be drawn from the cask and placed in another, *well cleaned and sulphured*. This process is repeated three or four times, until the cider remains tolerably clear and the dregs have been secreted. The empty casks not used immediately are also to be well sulphured and bunged up to prevent them from becoming musty. If it is not done, the cider filled in such casks will get a taste "after the wood." The sulphuring is done by rags dipped in melted sulphur; such a rag is placed on the hook of a wire, which is fastened to the lower side of the bung. The rag is lighted and let down into the cask and the bung placed loosely on top of the bung-hole. Of course the cask has previously to be cleaned *carefully*. The sulphuring must be repeated until all ordinary air has been excluded from the cask and the sulphur will not burn any more. For sulphuring casks, pure sulphur is required. Sulphur often contains arsenic, and if used for the above purpose, will poison the cider and produce headache, even if it is partaken of moderately.

Cider improves by age, but it is not necessary to wait for the final fermentation before it is used. If it is desirable to draw from the cask before all the fermentations have taken place, all that is required is to *extend* the fermentation. This is done by dissolving twelve pounds of white sugar in one hundred pounds of water and adding eight ounces of tartaric acid. This fluid is preserved in a keg and the cask filled with it to the same amount as cider is drawn off. After a short time new fermentation sets in, and when this commences to subside, some cider again can be drawn, the vacant space filled with the above fluid, and so on.

L. A. HANSEN.

Fairfax county, Va.

Insects injurious to vegetation, it is stated, can be destroyed by the application of a liquid composed of one part vinegar and nine parts water. The mixture should be applied to vines and plants with a garden syringe or water-pot with a fine nozzle.

In the Kingdom of Great Britain there were last year four and a half million acres of oats, or one-tenth of the whole surface.

For the "American Farmer."

Peruvian Grass.

Whilst grass growing, especially in our region of country, has ever been looked upon as an important matter, now that our entire economic system has been changed by the course of recent events, the labor upon which we relied, under that system, has been rendered wholly untrustworthy, the question, *what grasses shall we grow?* becomes one of paramount importance. When the object mainly aimed at is the improvement of the soil, all regard the matter as settled, the universal verdict, so far, being *there is nothing like red clover*. This, I believe, is to continue the verdict for at least many years to come in reference to Virginia and Maryland. But clover being a biennial, is found not to answer for an established, permanent pasture, and hence, where stock raising—a branch of husbandry among the most lucrative—is looked to, we are bound to have a good many points in regard to any grass recommended, settled before we can decide to prefer it to all others. Impressed thus with the importance of the subject, I have read with interest all that I have met in the different journals to which I have access, on the varieties and qualities of grasses.

My object in writing now is to draw attention, to provoke, if possible, a correspondence about a grass that I see is beginning to attract no little attention, and to be growing in favor in some localities. I wish to learn more about it myself and to have others learn also. I allude to the Peruvian grass. A writer—Robert C. Jones—whose post-office I believe is Lisbon, Va., in the Bedford Sentinel reports the results of experiments with it by himself and neighbors as quite satisfactory. In consequence, he hesitates not to recommend it quite highly. "I will venture to predict," he says, "that whenever Peruvian grass is brought into fair and equal contrast with other grasses of any variety, it will be found not only to compare advantageously, but, upon lands of ordinary fertility, far to exceed in height and bulk any other variety." He recommends it as the only grass "that grows to full perfection on unimproved soils." The qualities that he claims for this grass, and upon which he bases the opinion that "it is ultimately to become the favorite grass of the State," may be stated in brief as follows: Its growth is unusually vigorous and rapid; it

forms a deep, close sod; it will withstand long continued drought, (we would be glad to learn how it has behaved of late, July and August, 1869); it may be relied upon with great confidence for a large yield of fodder and of seed; it is a master-grass and has proved itself, wherever tried, *no carpet bagger*, but a permanent occupier of the soil; it is found to take with great readiness when sown, it making no difference at *what season of the year*; it does admirably to sow in conjunction with the common red clover, and can and should be cut with it, as they both ripen about the same time; it is the earliest variety of grass known in the State, and affords a large amount of forage for grazing.

This grass has been tried to a limited extent in Rockbridge. We have, therefore, thought it desirable thus to group together and present for the consideration of our enterprising tillers of the soil, such qualities claimed for it, as would set many of them to thinking and experimenting. Ours is eminently a soil well adapted by nature to grazing, and he is the wise farmer that looks to the development of the natural elements of his soil and works *with* and not *against* nature.

Dr. Wm. P. Ewing, of Fancy Hill, Rockbridge, has had several years' experience, I understand, with this grass, and fully endorses all that is claimed above for it. We would be glad to hear from you, Mr. Editor, or from any of your readers that may feel themselves justified in speaking about this grass. Give us the result of your experience, whether long or short, satisfactory or unsatisfactory, in condemnation or commendation, and oblige yours, &c. JACOB FULLER.

Lexington, Rockbridge Co., Va., Aug. 5, 1869.

GREASE YOUR WHEELS.—"Some persons may not be aware," says Hicover in his work, *Bipeds and Quadripeds*, "that the trifling neglect of a pair of wheels being comparatively dry or well greased, will cause twenty miles to take far more work out of a horse than forty would in the latter case; yet wheels absolutely screaming from dryness are often seen and heard attached to carts and wagons; and thus would the brute in human form let them scream till he had finished his journey's end or his day's work, though his horses were drawing, from such cause, at least one ton in four of resistance more than they would if the defect were attended to."

Coating of Seed with Manure.

There is no finality farming now-a-days—the motto is “onwards.” Agriculture is no longer treated as a secondary concern by men of science, and the husbandman eagerly avails himself of the knowledge derived from their researches. When any novel and striking theory is advanced, in addition to the experiments of practical men brought to test its truth, the investigation of the agricultural chemist is also readily obtained to determine its bearings, and the limits within which the system propounded is likely to hold good. The idea of steep-seed manuring is not new, for it has been several times brought before the British farmer during the last hundred years; but so extravagant were some of the notions promulgated by some theorists in this department that they carried their own refutation with them. Some quarter of a century ago, for example, M. Bickes, of Germany, affirmed, in giving expression to his success, that “he had dried plants of wheat, consisting of fifty-six and fifty-seven stalks, potatoes above 7 feet high, and tubers in proportion; and sunflowers 11 feet high, with 4 discs 14 inches in diameter, and seeds as large as coffee beans.” This gentleman, after giving further details, produces testimonials as to the efficacy of his method from practical men in various parts of Germany, in relation to the years 1829, 1830 and 1831. These testimonials speak as to the giant crops grown, and the increased number of stalks from a single seed and though they are undoubtedly entitled to some weight, they fail to give such precise acreage returns as would satisfy the requirements of the British farmer in his more definite way of detailing experiments.

Ten years ago the writer was induced by the late Mr Ronald, of Glasgow, a respectable West India merchant, to try the coating of seeds and roots before sowing and planting, with several fertilizing ingredients. Mr. Ronald himself, after a series of accurate experiments on a small scale, extending over ten years, found that his crops were greatly better than those to which no application had been made. His statements received partial publicity at the time in a commercial newspaper, but, so far as we are aware, they continue unnoticed in any agricultural newspaper or journal. It may, therefore, be interesting to give a short outline of his process. The chief alimentary substances employed by him were

a solution of Irish lime and water, a solution of byre manure, a solution of henpen, city sewage, and soot and water. He also used sugar with great advantage, not only as a useful manure, but also, on account of its glutinous nature in adhering to the seed better than anything else. His method of coating the seed was as follows: Take a tub, say 30 inches in diameter, and 2 feet deep; empty into a boll, or 4 bushels of wheat; take 8 pounds of sugar, bruise any lumps that may be in it, and sprinkle it on the top of the wheat. Take another tub, 2 feet in diameter and 1½ feet deep, put into it 6 gallons of water, and mix soot with it, until it is as thick as good cream, then, with a jug, distribute the solution slowly on the top of the sugar and wheat. The liquid will then be about 2 inches above the level of the wheat, and the whole mass is to be stirred several times during first four hours. After remaining fourteen hours the liquid is entirely absorbed, and the grain is sown without loss of time. Such are the outlines of Mr. Ronald's method of preparing his steep, and the writer scrupulously followed his directions. The experiment was wrought out with success in a field of oats in the season of 1859. The one-half of the field, which consisted of a light, generous soil, plunged out of lea, was sown with sandy oats, dressed in the way stated, and the other with the same variety of oats without any coating. The two divisions were harvested and stored separately, and when threshed and winnowed the former showed an extra produce of 6½ bushels per acre. The succeeding year was not attended with the same success, so far as the experiment was concerned, for, untoward weather having set in, the different portions of the field were carried hurriedly during dry intervals, and mixed up together in the stacking. Details of after experiments will be subsequently given, as well as some trials that were made by several farmers in Ayrshire.

Two other experimenters in this particular department brought themselves prominently before the agricultural world some twenty or thirty years ago, who deserve more attention than the German referred to, for they, like Mr. Ronald, describe the materials they used, and the methods they adopted in preparing the seed. Still, it cannot be denied that men whose opinions are worthy of all consideration, deny the possibility of good results from the coating of seed. Dr. Voelcker, who is no

mean authority, affirmed that seed manuring was not based on rational principles. He published some seed-steeping experiments in the *Journal of the Royal Agricultural Society of England* in 1857, in which he engaged solely with the view of determining the various stages of germination resulting from the different applications, discarding altogether the idea of augmenting the crop by these appliances. No doubt this celebrated chemist, in looking at the many failures in seed-manuring in previous attempts, had been led to express himself unfavorably of the whole matter, without considering that there might remain untried alimentary substances, whose application might meet, and to some extent satisfy the requirements of the plant. Professor Johnston, on the other hand, asserts his belief that considerable benefit may accrue from the use of sundry steepes. Indeed, the fact is undoubted and has been evinced by careful experiments. It may be further asserted that the plan of causing every seed to carry with it to its bed in the earth some good manure stands to reason; and the fact that mechanical matter is developed in the germinating process, leads naturally to the conclusion that an increased supply of this substance would be beneficial. But even although the scheme were not based on specious principles or although its action were incapable of a scientific explanation, that would be no good ground for abandoning experiments or relinquishing all research in that direction. The Glasgow gentleman already referred to experimented for ten years, and delayed giving the outside world any knowledge of his proceedings till positively reliable information could be advanced as to the materials best adapted for securing success, and the best mode of their application. In the progress of the growth of the crop the superiority of the dressed grain is in most cases very marked. In early-sown fields, on weak soils, with barren weather corn yellows in the *swoon*—that is, when the nourishment of the pickle is exhausted. At this stage in the growth of the plant, the benefit of the coating is at once apparent, especially if sugar has been one of the ingredients used in the dressing. The embryo plant otherwise languishes in its first searches after food external to the pickle. The sight of the sickly plants at this period, under the conditions we have assumed, as compared with manured seed, would convince

the most incredulous that good was to be derived from the scheme. To assert, as some sanguine advocates have done, that, by adopting this process, the farmer may dispense with the ordinary manurial applications, and yet have a large crop, is quite absurd. A grain of alimentary matter in contact with the seed cannot extend its influence through the whole period of the growth of the crop. It can only be rationally viewed as an *auxiliary*, and not as a *substitute*, for ordinary farm-yard manure, or such artificials as are in other circumstances applied to the crop.

The main obstacle to the constant success of the experiments of the writer was an excess of rain before and down to the stage of the growth of the plant to which we refer. This, it is thought, is due to the solubility of the ingredients used passing away by solution and filtration, especially in porous soils, before the period of *sitting* incereal crops. Most farmers may recollect of the want of the expected success of the patent manures of that celebrated chemist Leibig; and it has been asserted that it arose from the difficulty of adjusting the soluble and insoluble ingredients from cheap materials. It must be obvious to all, that if an alimentary material is too soluble the plant is soon deprived of its food by the washing down of the rains; and, on the other hand, if it is not readily soluble in water, it cannot be available as plant food; and unless, as in nature, a medium is attainable, the manurial ingredients are of less value. It should be observed that in the selection of the materials for the steep, nitrogen should be always included. It, however, must be used with caution, else, like a farmer of our acquaintance, who, in experimenting with guano after the method proposed, destroyed the vitality of his seeds.

The writer has watched and examined with great interest the primary and secondary rooting of cereal crops; and the bulk and yield of the future crop are ever largely dependent on the concurrence of fostering weather at the stage when the seminal roots and seed cease to yield food to the plant, and when the coronal rooting, which draws nourishment from a different stratum of soil, begins to provide food for its development. The stage when the seed supply of nourishment ceases is always critical, and often there is a great loss of plant in sterile soils, and those holding noxious ingredients. But though

there may be no loss of plant, if the process is protracted by, unpropitious weather the crop is rarely prolific.—*From the Farmer, Lond. & Edin.*

New Fodder Plant.

M. Laslier, of Boston, has introduced and is cultivating a plant which he is confident will prove to be a great acquisition to the fodder plants now commonly grown in this country. This is the *Galega officinalis* of the botanist, a native of Spain, and first introduced into England in the latter part of the sixteenth century. It belongs to a genus of hardy, ornamental, perennial-rooted, herbaceous plants, of the lotus division of the composite order. The roots consist of many strong fibres, frequently jointed, stems numerous, hollow, erect, from three to six feet high. Its flowers are produced in loose spikes from the top of the stem, and bloom from June to September. The pods are erect, nearly cylindrical, from five to eight seeded, and swollen out with air. The color of the flowers is light blue, or light purple, white, or variegated. The variety with which M. Laslier is experimenting is white, we believe.

The plant was cultivated many years ago in gardens for medicinal purposes, but it has of late years been recommended as a forage plant for cattle. It yields a large bulk of produce. Cattle do not appear to relish it at first and will eat it but sparingly; but, like many other feeding substances, it is thought they will soon learn to like it. At any rate, its composition shows it to possess a high nutritive value, being nearly two to one as compared with good hay; 1.92 as compared with lucerne. A distinguished chemist, Prof. Gaucheron, of Orleans, France, says 42,100 pounds of the *Galega officinalis* are quite equal in nutritive value to 200,000 pounds of good hay. The plant grows readily in most soils. It may be manufactured into paper.

M. Laslier showed us plants that had come up from seeds sown in the open air in October last. They were about four inches high, and looked not very unlike young clover plants.—*Mass. Ploughman.*

A writer to the Southern Cultivator makes a strong point in favor of black hogs for the South. He says black hogs there are never troubled with diseases of the skin, while no breed of white ones is exempt from them.

The Labor Question Solved.

Mr. "D. K." says with nine-tenths of our farmers, "Superphosphate and other fertilizers are beyond their reach, for the reason that labor and cash are not at their command." I will take the liberty to say to my esteemed friend, that we have as good labor as the world can produce, and equally as cheap. We must admit that every man is possessor of his own physical strength; let it be much or little; we must suppose he has the free use of the life and limbs that God gave him, and we do know he is positively commanded to use them; but we don't do it. No, sir, we are sitting in the shade, waiting for a better system of labor. Mr. Coolie, Mr. German, Mr. Irishman is expected along pretty soon to perform our work. We have looked some time and have looked in vain for a better system. Oh! when will it come; when will we realize that long looked for pleasure? I say my dear friend, let us wake up from our lethargy; let us "pull off our coats, and roll up our sleeves" and take hold in good earnest for when a man determines to do his work himself, it is sure to be done. We are too fearful of blistering our hands—we have a great aversion to exposing ourselves to the pleasant rays of the noon-day sun.

Our counseling physician looks wise and tells us that our constitutions are feeble and that we must exercise much care; he tells us to avoid the heat for it will produce inflammation of the brain; he also tells us to avoid the cold, or it will generate pulmonary disease and closes his very interesting lecture by suggesting the propriety of corresponding with some emigration agent, that a better system of labor may be introduced. I say, there is the moment thousands who are actually invalids produced by an idle or sedentary life, that would be materially benefitted by exercise derived from moderate labor, and saved from premature graves. Idleness is the parent of disease, want, and many other misfortunes and how many thousands are in our cities, towns, villages, and country too, who are perfect loafers and consumers? Yet there is great noise about emigration. We know that it would unavoidably bring fugitives from justice, paupers, and other notorious characters that would not know a plough or spade from a blowing horn.

If men of capital would come among us and build up manufacturing establishments

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and make our farming implements, our cloth,
cutlery, &c., we would be happy to receive
them; but capital is the result of labor, and
when we look around us and count the thou-
sand-and-one little boys and girls, we feel sus-
picious that there is emigration sufficient.
They will soon want homesteads, and if their
minds and muscles are well developed, we will
soon have an army of laborers that will be
adapted to our climate, our wants and our
ways.

I am willing to admit the assertion of our
friend, that cash is scarce; but I have given
him one cause for the scarcity, and will give
another:

We frequently see our friends spending
money for spirituous liquors, tobacco, pipes,
sigars snuff, &c., which cannot be considered
in the least an equivalent for the money spent
—but actually a poison—destroying their
health and lives; yet they have no money to
spend for fertilizers, or even to subscribe for
an agricultural journal. I contend that, if
any man will exercise prudence and economy
however poor he may be, he can certainly
have as much as \$20, which will purchase a
half ton of superphosphate of lime, sufficient
to manure three acres of ordinary upland—
enough for one hand to cultivate in cotton
and other productions being predominant.

As an experiment, in 1866 I manured two
and a quarter acres of poor pine land with
superphosphate, at the rate of 350 pounds
per acre, as a test, and I manured a few rows
with Peruvian guano, all applied in the centre
row and bedded thereon. It was planted
and cultivated in the usual manner, and I
picked, dried and accurately weighed 3000
pounds of seed cotton from the plat of land.
There was no difference in yield between the
superphosphate and guano, although there
was a considerable difference in the price of
the manures. This caused me to discontinue
the use of guano. A similar soil adjoining,
unmanured, yielded 400 pounds of seed cotton
to the acre. In 1867, from a plat of land
measuring 34 square yards, less than three-
fourths of an acre, I gathered 736 pounds of
seed cotton. It was manured with 300 pounds
of superphosphate. The yield was materially
improved by the army worm.

Mr. James Morris, a citizen of our parish,
and a gentleman whose veracity is not doubt-
ed and whose knowledge and success as a far-
mer cannot be excelled by any in the State,

reported to our Club the results of his experi-
ments. In 1867 he planted a field of ordinary
pine land in cotton, manured at the rate 350
pounds superphosphate to the acre, leaving a
portion in the centre of the field unmanured.
His yield corroborated my own experiments.
In 1868 he planted the same field in corn,
without the application of any kind of ma-
nure, having his field horizontalized and hill-
side ditched. He desired planting in the
same old rows. He carefully observed the
difference in the growth of the manured and
unmanured, determined to test the effects of
manure applied the year previous. At har-
vesting with a responsible witness present, he
measured fifteen bushels per acre from the
manured and five bushels per acre from the
unmanured.

Thus establishing the reports from our Club
that superphosphate will pay 200 per cent.
Again I will beg the indulgence of you, Mr.
Editor, and the readers of the Ruralist, and
in the meantime I would like to hear from
Mr. D. K.—*Cor. Southern Ruralist.*

SALT FOR GRASS.—A correspondent writes
the American Institute Farmers' Club on this
subject, as follows: "When I was in Australia
I noticed that the tracks made by the drags
loaded with salt hides were always green,
even in the severest times of the long 'buck-
fielders,' or hot winds, charged with dust, that
destroy everything they pass over. This led
me to think that here was a solution of the
question as to the best dressing for grass lands,
and it was here I found it. For twelve sea-
sons I have seen it tried upon a variety of
land and grasses, and always with the same
results. In the spring, the refuse salt and
sweepings from the ships and wharves, where
wet-salted hides have been stowed, is spread
over the sward, the young spring grass is
strong, and grows quickly. The cattle are
fond of it, and eat it *evently*, and the fields so
dressed keep green when all around is parched
and dry. From the absorbent qualities of the
salt, moisture is attracted and retained."

LOOK TO YOUR HORSE COLLARS.—The col-
lar is too often quite unfit for the horse. It
should not be too big or too small, and should
be well padded and have a smooth plain sur-
face. Very many horses are now drawing
heavy loads, who have bleeding and running
sores under their collars and saddles,

Food.

[From Lectures on Digestion delivered at the Cirencester College.]

The generally nutritive value of different kinds of food has also been represented theoretically, and by supposing it to be very nearly in proportion to the quantity of nitrogen, or of gluten, which vegetables contain. Though this cannot be considered as a correct principle, yet, as the ordinary kinds of food on which stock is fed contain in general an ample supply of carbon for respiration, with a comparatively small proportion of nitrogen, these theoretical determinations are by no means without their value, and they approach in many cases very closely to the practical values above given, as deduced from actual trial. Thus assuming that 10 lb. of hay yield a certain amount of nourishment it will be necessary according to theory, to give the following quantities, in order to give the same general effect in feeding:

Hay	10
Clover hay	8
Vetch hay	4
Wheat straw	52
Barley straw	52
Oat straw	55
Pea straw	5
Potatoes	28
Old potatoes	40
Turnips	60
Mangold wurzel	50
Carrots (red)	35
Cabbage	30
Peas and beans	2
Wheat	5
Barley	5
Oats	5
Rye	5
Indian corn	5
Bran	5
Oil-cake	2

If the feeder be careful to supply his stock with a mixture or occasional change of food—and especially, where necessary, with a proper proportion of fatty matter—he may very safely regulate, by the numbers in the above tables, the quantity of any one which he ought to substitute for a given weight of any of the others, since the theoretical and practical results do not in general very greatly differ.

3. As has been already stated, however, it is not correct that this or that kind of vegetable is more fitted to sustain animal life, simply because of the larger proportion of nitrogen or gluten it contains; but it is wisely provided that, along with this nitrogen, all plants contain a certain amount of starch or sugar, and of saline and earthy matter—all of which, as we have seen, are required in a mixture which will most easily sustain an animal

in a healthy condition, so that the proportion of nitrogen in a substance may be considered as a rough practical index of the more important and saline ingredients also.

It is very doubtful, however, how far this proportion of nitrogen can be regarded as any index of the fattening property of vegetable substances. If the fat in the body be produced from the oil in the food, it is certain that the proportion of this oil in vegetable substances is by no means regulated by that of gluten or other analogous substances containing nitrogen. The stock farmer who wishes to lay on fat only, upon his animals must, therefore, be regulated by another principle. He must select those kinds of food, such as linseed and oil cake, in which fatty matters appear to abound, or mix a due proportion of fat or oil with the other kinds of food he employs.

But large quantities of fat accumulate in the bodies of most animals, only when they are in an unnatural, and, perhaps in some measure, an unhealthy condition. In a state of nature there are comparatively few animals upon which large accumulations of fat take place. A certain portion as we have seen is necessary to the healthy animal; but it is an interesting fact, that as much as is necessary to supply this is present in most kinds of vegetable food. In wheaten flour it is associated with the gluten, and may be extracted from it after the starch of the flour has been separated from the gluten by washing it with water. In so far, therefore, as this comparatively small necessary quantity of fatty matter is concerned, the proportion of nitrogen may also be taken without the risk of any serious error as a practical indication of the ability of the food to supply the natural waste of fat in an animal which is either growing in general size only, or is only to be maintained in its existing condition.

While, therefore, it appears from the study of the principles upon which the feeding of animals depends, that a mixture of various principles is necessary in a nutritive food, it is interesting to find that all the kinds of vegetable food which are raised, either by art or natural growth, are in reality such mixtures of these several substances—more or less adapted to fulfil all the conditions required from a nutritious diet according to the state of health and growth in which the animal is to be fed may happen to be. An important

practical lesson on this subject is taught us by the study of the wise provisions of nature. Not only does the milk of the mother contain all the elements of a nutritive food mixed up together—as the egg does also for the unhatched bird—but in rich natural pastures the mixture uniformly occurs. Hence, in cropping the mixed herbage, the animal introduces into its stomach portions of various plants, some abounding more in starch or sugar, some more in gluten or albumen—some more in fatty matter, while some are naturally richer in saline, others in earthly constituents, and out of these varied materials the digestive organs select a due proportion of each, and reject the rest. Wherever a pasture becomes usurped by two or three grasses, either animals cease to thrive upon it, or they must crop a much larger quantity of food to supply from this one grass the natural waste of all the parts of their bodies.

It may be indeed assumed as almost a general principle that whenever animals are fed on one kind of vegetable only, there is a waste of one or other of the necessary elements of animal food, and that the great lesson on this subject taught us by nature is, that by a judicious admixture, not only is food economized, but the labor upon the digestive organs is also materially diminished.

Left-hand Against Right-hand Ploughs.

An attempt is being made in some of the journals to "write up" left-hand as better than right-hand ploughs. "Country Joe," the agricultural editor of the *Nebraska City Press*, takes both ploughs by the handle in characteristic style, and settles the question to our mind, that is, on our side, being the "right" side. We give what he says, as we find it in the *St. Louis Journal of Agriculture*:

"Now we may not have traveled so much as Mr. Elliot; for like the old lady when asked by the shop keeper how far she had traveled, we say, 'Law sakes alive, we didn't travel, we rid.' We will not undertake to say that we have 'yet been created,' in the sense spoken of by Mr. Elliot. Perhaps we come up. At all events we are here, and have generally carried our brains where they could be used to the best advantage, and after fifty years experience, *always upon the farm*, we challenge Mr. Elliot, or any one else, to give good reason why a left hand plough is better than a right

hand, except, in the instance where one rein and a jockey stick is used, instead of the far more sensible way of driving with two reins. And even then, Mr. Elliot, why not put your one rein upon the off-horse and connect him with the near horse by a jockey stick, in the manner described as for the near with the off-horse; and then use a right-hand plough? An off-horse is just as easily educated as a near one, and can just as easily be made the governing horse. But we don't believe in that system of telegraphing the horse. You operate upon one horse with your *one line*, and then he upon the other by means of the jockey stick. We prefer to operate upon both horses at one and the same time. We have had many an argument with advocates of one line and left-hand ploughs, and we never failed to talk them down, and that too without taking any pains for selecting a good day for talking either,

"Lest Mr. Elliot may opine that we are a greenhorn, grown up away out on the 'border of civilization,' we will state that we are what is termed 'a blue bellied Yankee,' born in Hartford county, Conn., 'raised' mostly among the Berkshire hills, in the 'Old Bay State,' where we commenced our career as a farmer. Afterwards owned and worked a farm in Connecticut, and then for seven years followed our profession in Illinois, and since the summer of 1862 have worked at our trade here in Nebraska. We have owned and used both the right and left-hand plough. We believe just as good work can be done with one as the other, and not a whit better. We believe one is just as handy as the other, when we get used to it, and not a whit more so, only as we may have our horses trained and geared. Last year we discarded the left altogether, and we trust forever. Since then we have purchased three right-hand ploughs, making our present number five. We have, up to this date, May 20th, ploughed and planted about 150 acres, and if there is a man, East or West, who has done his work better or easier than we, it is not because he has used a left-hand plough."

[We have been in this great valley nearly twenty-five years, and have seen much ploughing done both by right hand and by left hand ploughs, and have seen no difference in their use, except in the peculiar manner of training horses here: We agree entirely with "Country Joe," in regard to the use of the double

line. In this city, we are pained almost every day by seeing the draymen violently jerking the poor horses and mules with the single line. It is an exhibition of cruelty to animals which we frequently witness, and we would call the attention of the burlesque artist of the *Hearth and Home* to this subject.

For accurate driving, also, give us the double line every time, though horses may be easily taught to obey the *word* of the driver, and thus the guiding line be entirely dispensed with. The Boston draymen, forty years ago, used no lines on their leaders—the horse obeying the word quite as promptly as they do the single line in this city.

Who will say that the lead-horse can not as well be trained to go on the off-side as on the near side? If he can, then we see no advantage of left-hand ploughs.]

Improving Poor Land.

There are many fields to be found, even on farms that are ordinarily kept in good cultivation, that show signs of running out, either from having been over-cropped with grain, or from neglect in seeding down to grass; i. e. being seeded down without a proper preparation of the soil by a cleaning crop. This is especially the case on large farms in the older counties, and those where the soil is of a light sandy nature. In most cases the difficulty of obtaining manure in sufficient quantity, or the distance and cost of conveying it from the homestead to far off fields, has been in a great measure the reason for neglecting them, as the farmer is most apt in these days of high priced labor to consider it more profitable to apply manure to those fields that are most handy and easily worked without any great loss of time in going to and from headquarters. Such fields often are allowed to remain just barely in grass for many years, then ploughed up, a crop of oats or late spring grain taken off, and nothing returned to the soil.

Now it would be an easy matter to bring them into a good and productive condition by keeping sheep on them, not merely as many as could make a living off such poor lands, but by herding them at nights and during part of the day, allowing them access to a better pasturage during the afternoons. In this way the land would be greatly benefited at little expense, as the sheep besides

leaving their droppings scattered over the land, and no better manure could be desired, would crop all the bushes, weeds, poor grasses, &c., so closely, that they would soon be exterminated, and white clover would spring up in their places. After two or three years of such treatment, if the land is then ploughed shallow and thickly sown with red clover, it would produce a good crop of feed for early summer, and the clover being left to itself to grow and attain a good size after the other pastures come in at harvest time, could then be ploughed under and form a good foundation of green manure on which to grow a crop of wheat or other grain, to be followed by a cleaning crop of roots, corn or potatoes, then barley, seeded down to permanent pasturage. In this way many fields that now are good for nothing but to produce a crop of weeds and briars and a scanty bite for hungry stock, might be made to come in as a part of a rotation on the farm without expending a large amount of labor and manure, when both these items are too costly to be indulged in.

We have seen fields of blowing sand converted into profitable pasturage by the simple expedient of keeping sheep on them in large numbers and afterwards seeding with clover and turning that under when in full bloom. Sheep may also be allowed to run on summer fallows to great advantage, provided they get access to good pasturage at least once a day. They are great destroyers of all weeds and noxious plants, and besides, on light land help to make the soil more compact and retentive of manure by the constant trampling in their wanderings in search of food, and have been known to eradicate the most inveterate briars and brambles by their constant browsing on them while they are in a growing state.—*Canada Farmer.*

If poultry is infested with lice, damp the skin under the feathers with water, then sprinkle a little sulphur on the skin. Let the bird be covered with insects or parasites, they will all disappear in the course of twelve hours.

A writer in the *American Stock Journal* says that costiveness and its accompanying evils are the main cause of sows destroying their young, and that green and other proper food is the preventive and cure.

Yellow Locust Hedges.

The plant most commonly made use of in the United States, for hedges, are the hawthorn, buckthorn, locust and osage orange, all of which are possessed of considerable powers of endurance, and make excellent and durable enclosures. But where a very strong fence is required, either the buckhorn or hawthorn should be set. It is, when full grown, utterly impervious to cattle, and may be relied upon with perfect security in all cases. But owing to the numerous obstacles which oppose the rearing of perfect hedge-lines of these plants or shrubs, the osage orange, locust, and a variety of other productions, are generally had recourse to; and it is in such cases that inarching is of the most essential service. As the practice may be novel to some of your readers, I will, with your permission, give an instance of its successful operation, together with certain antecedents involved in the history of the preliminary or incipient details of the undertaking.

On the margin of a fine field, where a division line separating the field from an extensive pasture range was required, I caused to be ploughed four furrows of fourteen inches each, making in all a space of fifty-six inches, or four and two-thirds feet. This was thoroughly rolled, the ground being a light sandy soil, and harrowed, care being taken not to disturb the soil. Manure was then spread on and as nearly as could be ascertained, at the rate of about forty one-horse cart loads per statute acre. This was thoroughly worked in by the joint action of the harrow and horse cultivator and the strip planted in potatoes, half a pint of poudrette and gypsum, in equal quantities, being allowed to the hill. The potatoes made a superior crop, and the ground was the same fall ploughed, rather superficially, and being furrowed, was planted with the seed of the common yellow locust, old, well-rotted manure being applied in the drill or furrow, and covered with a common hoe. The seed was prepared by steeping it twenty-four hours in tepid water, impregnated with sulphuric acid—one part of acid to two thousand parts of water. The seed germinated readily, and during the first year made the usual quantity of new wood. The hoe was frequently used in keeping down the weeds, and an occasional dressing of compost, formed of clay, muck, and decomposed stable manure, in equal portions applied. The next

spring, as soon as the frost was fairly out of the soil, all the plants—which had been sown quite thick—were taken up, and the soil prepared for transplanting, by thoroughly digging it to the depth of twelve inches, and incorporating with it, by thorough intermixture, a liberal quantity of compost. The lines were then drawn, fourteen inches apart, by means of a line, drawn tight, and opened with a common shovel, care being taken to have them true parallels, and the plants set exactly on the lines, twelve inches apart. The second spring the tops were removed close to the surface, the soil loosened, and again dressed with compost, in which wood ashes, gypsum and muck were the principal ingredients. In June all the perpendicular and lateral limbs, except three of the latter, were cut off—the three being on three sides of the stock—and nothing further done. In the following May inarching was performed successfully; and from two to five attachments formed between the limbs of each tree, care being taken to form them between the larger and more healthy laterals, and so to interlace them as to secure as great a degree of closeness as practicable. A finer line of fence never rewarded the efforts of industrious enterprise; not one plant failed. The lines were perfect, and no symptoms of disease were apparent, while the development was remarkably rapid, so rapid, indeed, that pruning was resorted to, in order to check it and preserve the whole in a symmetrical form. The spinous character of the locust is especially adapted for this use, while its dense and deep green foliage communicates to it an appearance at once highly beautiful and ornamental. It has now stood six years without any repairs.—*Cor. Germantown Telegraph.*

Broom Corn.

ITS SUCCESSFUL CULTIVATION.

1. It is important that the ground should be good. It ought to be as fresh as you would want for Indian corn. It should be well broken, and, if harrowed, all the better for it.
2. Plant the seed in the spring (*not too early*) when the ground is warm and in good condition.
3. Rows should be three and a half feet apart, and the seed should be drilled. One stalk of corn should be left, if too thick in the row, six inches apart.
4. Cultivate well—all depends upon good

cultivation. I always cultivate in the same manner as Indian corn, and never permit any weeds to grow.

5. Cut when the seed on the stalk are in the milk. One hand should go ahead and "table," to be followed by the cutters. One hand will table for four or five cutters.

6. "Tabling."—This consists in bending the stalks of two rows diagonally across each other, about two feet from the ground. The brush projects beyond the row, and is then cut and laid on the table, thus formed, to dry. The third row is then cut and laid on the same table; by this means the "wagon-row" is cut—that is, a wagon-row to every six rows. I will explain: a, b, c, d, e, f, represents six rows; a and b, e and f, are table rows; c is cut and placed upon the table of a and b; d is cut and placed upon the table rows of e and f. It is easy to see that c and d are wagon rows, with a table on each side, convenient for loading into the wagon.

7. *Cutting*.—If the brush is large, six inches of stalk should be left to it; but to the small brush much more—say eight to twelve inches. Knives should be procured with good handles, and kept sharp.

8. Threshing the seed off is the next thing. A cylinder of wood, twelve inches long and ten inches in diameter must be provided. It should be of solid wood. Into this, iron or steel spikes should be driven, two inches apart, with three left outside of the cylinder. This is propelled by horse-power; but, for very large crops, I recommend steam-power. Machines are now manufactured greatly improved, for this very purpose, and can be purchased somewhere East.

9. *Curing*.—Sheds must be provided for this purpose, so that the corn can be perfectly protected from the sun and rain. I put my corn in racks eight inches apart, leaving abundance of space for free ventilation.

10. The yield is from four hundred to eight hundred pounds to the acre, the latter figure being a large yield.

11. Baling is done in a hay press. The brush should be laid straight, with care, and the bale may be fastened by wire or hoop poles.

12. The cost of cultivation is just equal to that of Indian corn until it is ready to cut. The cutting, hauling and threshing requires eight men per day for each acre of corn, besides two teams and one wagon. This in-

cludes putting it away on the racks for curing. The cost of baling is just double that of baling hay.

13. I would advise those going into the business of broom corn raising for profit, to begin on five or ten acres for initiation.—*Colman's Rural World*.

Salt to Keep Weevil from Wheat.

It is said by those who have tried it, that they never lost any wheat by weevil after salting it. The wheat should be allowed to stand in the field in shock ten or twelve days, when it should be threshed, fanned and salted. Half a pound of salt is the quantity generally used to a bushel of wheat. If the room, or granary, in which the wheat is put away, is dry, by following this method of salting, the wheat is sure to keep well. Wheat, when put up in the usual way, will always diminish in bulk as it gets old, and many persons consider that it will not yield as much, or as good flour, as when it was fresh from the field. Be this as it may, the diminishing in bulk to which wheat is subject, is prevented by salting in the manner above stated. The best salt adapted to this purpose is that brand known as the "Kanawha Salt." This salt is preferable, on account of its all dissolving, and being soon absorbed by the wheat. For the first eight or ten days after salting, the wheat, if examined, will be found somewhat damp; but if examined a few weeks later, it will in all cases be found perfectly dry, having kept cool all the time.

The advantages claimed by those who practice this mode of salting and saving wheat, are as follows:

1. It preserves the wheat with more certainty than sunning.
2. The wheat does not lose in volume or weight by long keeping.
3. It makes more and better flour.
4. It costs much less labor.
5. The wheat is better for seed, because it is preserved in a perfect state. There is not enough salt in it to prevent it from germinating; but there is enough to stimulate it to sprout vigorously.—*Rural American*.

A correspondent of the *Journal of the Farm* says he raised 1200 bushels of sugar beets to the acre on soil not over six inches in depth.

Lubricating Substances.

Lubricating substances, as oil, lard, and tallow, applied to rubbing surfaces, greatly lessen the amount of friction, partly by filling the minute cavities, and partly by separating the surfaces. In ordinary cases, or where the machinery is simple, those substances are best for this purpose which keep their places best. Finely powdered black lead, mixed with lard, is for this reason better for greasing carriage wheels than some other applications. Drying oils, as linseed, soon become stiff by drying, and are of little service. Olive oil, on the contrary, and some animal oils, which scarcely dry at all, are generally preferred. To obtain the full benefit of oil, the application must be frequent.

According to the experiments, made with great care by Morin, at Paris, the friction of wooden surfaces on wooden surfaces is from one-quarter to one-half the force applied; and the friction of metals on metals, one-fifth to one-seventh—varying in both cases with the kinds used. Wood on wood was diminished by lard to about one-fifth to one-seventh of what it was before; and the friction of metal on metal was diminished to about half what it was before; that is, the friction became about the same in both cases after the lard was applied.

To lessen the friction of wooden surfaces, lard is better than tallow by about one-eighth or one-seventh; and tallow is better than dry soap about as two is to one. For iron or wood, tallow is better than dry soap about as five is to two. For cast-iron on cast-iron, polished, the friction with the different lubricating substances is as follows: Water, 31; soap, 20; tallow, 10; lard, 7; olive oil, 6; lard and black lead, 5.

When bronze rubs on wrought iron, the friction with lard and black lead is rather more than with tallow, and about one fifth more than with olive oil. With steel on bronze, the friction with tallow and with olive oil is about one-seventh less than with lard and black lead.

As a general rule, there is least friction with lard when hard wood rubs on hard wood; with oil, when metal rubs on wood, or metal on metal—being about the same in each of all these instances.

In simple cases, as with carts and wagons, where the friction at the axle is but a small portion of the resistance, a slight variation in

the effects in the lubricating substance is of less importance than retaining its place. In more complex machinery, as horse-powers for thrashing machines, friction becomes a large item, unless the parts are kept well lubricated with the best materials.

Leather and hemp bands, when used on drums for wheel-work, should possess as much friction as possible, to prevent slipping, thus avoiding the necessity of tightening them so much as to increase the friction of the axles. Wood with a rough surface has one-half more friction than when worn smooth; hence moistening and rasping small drums may be useful. Facing with buff leather or with coarse thick cloth, also accomplishes a useful purpose. It often happens that wetting or oiling bands will prevent slipping, by keeping their surfaces soft, and causing them to fit more closely the rough surface of the drum.—*Thomas' Farm Implements.*

DISTINGUISHED AGRICULTURISTS.—Among the Romans agriculture was held in the greatest esteem. Cato in the second, and Varro in the first century, previous to the Christian era; Vorgel, at the time of the birth of our Saviour; Palladius, Pliny and Columella have all extolled its excellencies. Several of the noblest families of Rome derived their patronymics from some vegetable which they were famous for raising, such as Fabii pea, Lentuli, Cicerones, &c. These were the days of Roman agricultural glory. Cato says that when they praised a good man they called him an agriculturist and a husbandman, and it was considered a great honor to be thus spoken of. Cincinnatus, who flourished four hundred and sixty years before Christ, was the ploughman of his own four acres, and when the Samnite Ambassadors visited Curtius Dentatus, they found him at work with his vegetables. Cato says, "Study to have a large dunghill," and to this I would add, treat your dumb laborers as inferior brothers, deprived of speech.—*Henry Berg.*

Mr. A. Thomas, of McHenry Co., Illinois, manured six acres thoroughly that had lain in meadow land twenty-seven years, ploughed seven inches deep, planted with corn and tended it entirely with a shovel plough. The result was an average of ninety bushels of corn per acre.

The American Farmer.

Baltimore, September 1, 1869.

TERMS OF THE AMERICAN FARMER.

SUBSCRIPTION TWO DOLLARS PER ANNUM.

RATES OF ADVERTISING:

Ten lines of small type constitute a square.

	1 Mo.	3 Mo.	6 Mo.	1 Year.
One Square.....	\$2.00	\$5.00	\$8.50	\$15.00
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Half Page.....	15.00	35.00	60.00	100.00
One Page.....	25.00	60.00	100.00	200.00

PUBLISHED BY

WORTHINGTON & LEWIS.

New Office, 4 South Street,

Near Baltimore Street,

BALTIMORE.

AMERICAN POMOLOGICAL SOCIETY—We have received, and should have noticed last month, the circular of this Society, issued by President Wilder.

It gives notice that the Twelfth Session of the Society will be held in Horticultural Hall, Philadelphia, on the 15th day of September, commencing at 11 o'clock, and continuing three days. All the States and Territories are invited to be present by delegation, "that the amicable and social relations which have heretofore existed between our friends throughout the Union may be fostered and perpetuated, and the result of our deliberations, so beneficial to the country at large, be generally and widely diffused."

ADVERTISEMENTS.—We ask especial attention to the advertisements of fertilizers and nurseries. Those who advertise in the *Farmer* are the most reliable of our merchants and business men, and can be, so far as we can judge, relied on.

The old firm of Wm. Crichton & Co., it will be seen have undertaken a new enterprise in the way of fertilizers and offer favorable terms.

FINE SHEEP.—We call the attention of those who may want the opportunity of improving their stock of sheep to the advertisement of Gov. Bowie. The Webb South Downs are world renowned, and have doubtless lost nothing under the careful and skilful hand of such a breeder as Gov. Bowie.

Presidency of the Agricultural College.

Admiral Buchanan, after serving through the scholastic year as President of the Agricultural College, tendered to the Board his resignation, which, with great reluctance, was accepted. We fully accepted with those who lamented the Admiral's determination, and deprecated its effects upon the interests of the Institution. His administrative abilities and his truth, uprightness and force of character, to say nothing of a long and distinguished public record, were qualities not to be dispensed with without serious apprehension of resulting evil.

We are very glad, therefore, to be able to present the accompanying testimonial to the qualifications of the Rev'd Samuel Register, D. D., who has been elected to fill the vacancy made by Admiral Buchanan's resignation. It is, as we understand, from the pen of an able and well known citizen of Maryland, Dr. Thomas Bond, who, speaking of the President elect, in a late number of the *Baltimore Episcopal Methodist*, says:

"We congratulate the citizens of Maryland and the friends of the Institution everywhere upon so valuable an acquisition. Mr. Allen Bowie Davis, the President of the Board of Trustees, has kindly placed at our disposal the following letter from an eminent citizen of Maryland, which, from our long and intimate acquaintance with the newly elected President, we most heartily endorse. He says:

"Rev. Samuel Register, D. D., possesses in a very high degree the qualifications necessary for the position; and if he could be induced to accept it, would doubtless contribute largely to the success of the College.

"He is a native Marylander, of high character, of very accurate scholarship, of very great natural endowments, of commanding presence and dignified bearing, and (what I understand you most desire) he is possessed of all the requirements of an executive officer in a remarkable degree. He combines more than most men, the 'suaviter in modo' with the 'fortiter in re'; and in my judgment would make the most efficient President of the Agricultural College that I could suggest.

"Mr. Register is, besides his intellectual fitness, eminently qualified for the position as a practical and successful gardener and farmer. During his whole life he has combined intellectual pursuits with practical agriculture, and is a living proof of their compatibility."

Plaster for Peanuts—Dwarf Pears.

A correspondent makes the following inquiries:

"Can you answer the enclosed communication I sent to the 'Norfolk Journal' 19th ult. I presume that you are as ignorant of *our* great crop, peanuts, as the people here are of that great fertilizer, plaster.

"Will it *pay* to plant dwarf pear trees for profit?"

"*Editor Norfolk Journal*: It has been satisfactorily proven that a top-dressing of ground plaster will greatly increase a crop of corn and other grain on a sandy soil, protect it against drought, &c.; hence, I would be glad if some of your many readers would tell me, through the columns of the Journal, whether or not I can with *safety* use plaster on my peanut crop. I fear it might make more *vines* than peas. Let those speak only who know. The season promises to be very dry, and plaster is the greatest collector and retainer of moisture known to the farmer. SUSSEX.

Sussex county, Va., July 19, 1869.

We cannot answer for plaster on peanuts, but we hope our friend and others have tried it this season. It is a cheap fertilizer when it does act well. For dwarf pear trees our answer is, we think it will *not pay* to plant them for profit.

One Hundred Bushels to the Acre.

The editor of the *Native Virginian*, Dr. Bagby, is a noted humorist, and takes pleasure, perhaps, in getting off a hoax on more serious people. Possibly this may throw light on the following paragraph, which the *Petersburg Index* credits to the *Native Virginian*. The *Index* takes it seriously, and we should too if Col. Powell would "fall" fifty or sixty bushels, as the man in the snake story did. As it is, we must "await further developments," as the papers say. We hope our friends will hurry up the threshing, and not allow us to rest too long on what "several competent judges say." In the mean time, it is reported that, on the model farm of the Emperor Napoleon, under the direction of the distinguished chemist, M. Ville, a hundred bushels to the acre has been made. Perhaps so, and if so, why may not Dr. Powell, of Orange county, in Old Virginia—"reconstructed"? *Nous verrons.*

The *Index* says: "During the last autumn we remember to have read of two farmers of

Orange county, each preparing a lot of ground for wheat in the most perfect manner, the one manuring heavily with guano, the other with superphosphate. We find in the *Native Virginian* the result of one of the experiments, and hope it will soon furnish us with that of the other. We have more than once expressed the opinion that our lands are capable of producing forty bushels to the acre, but in our wildest imaginings we never thought of a hundred, nor more than half of it. We have indeed read of such a yield, and we believe it has been realized in Scotland, but not to our knowledge in this country.

"The following is an account of one of the crops alluded to, and we commend it to the consideration of such of our farmers as have been satisfied to reap the same product from twelve times the surface:

"Dr. C. J. Powell, of Orange county, seeded last fall eight bushels of wheat on one and a half acres of land, together with 1000 pounds of guano. The land, says the *Fredericksburg Herald*, was prepared with remarkable care, and had not a pebble large as a walnut left on it. Dr. Powell has cut and stacked the crop. There are seven stacks of this wheat, which several competent judges say will thrash out an average of thirty bushels each. If so, this will give two hundred and ten bushels to the acre and a half. Dr. Powell himself thinks the yield will not be less than one hundred and fifty bushels! This shows what thorough cultivation will do."

Cleansing Cows after Calving.

BALTIMORE, Aug. 4, 1869.

Editor of American Farmer:

DEAR SIR: I wish to inquire through your valuable paper the cause and the remedy for cows not cleaning after calving, at this season of the year.

A SUBSCRIBER.

The failure to get rid of the placenta or after-birth is owing most likely to debility or want of vitality in the system, and is very common to cows that have not been well cared for in winter. In McClure's "Diseases in the American Stable, Field and Farm Yard," the following remedy is advised: Epsom salts 1 pound; powdered ginger 1 ounce; powdered fenugreek 1 ounce; caraway seeds half an ounce; mix in three or four bottles of warm porter or water, sweetened with molasses—when the cow has not properly cleaned within twenty-four hours after calving.—ED. FARMER.

Large and Small Farms.

We are always interested in following the discussions which farmers have among themselves at club-meetings. If on such occasions the most sensible men would talk and had a happy faculty of delivering themselves, there would be no form of imparting instruction so attractive and useful. Unfortunately, however, it is not always those who have most to say who are most ready to say, and there are many who love to hear themselves, whose discourse, to use a slang expression, is "all talk." Many of the agricultural journals are making fun of the wise givings forth of the New York City Farmers' Club, and it is not gainsayed that there is too often food for fun. But it is not of plain farmers, whose good practical sense excels their felicity of speech, that jest is sometimes made, but of those whose facile tongues make free with matters too high for them. Intelligent lovers of agriculture like the talk of plain men, even if somewhat destitute of polish.

We are indebted a second time to the Utica Weekly Herald for the report of a discussion of what seems to be a club of sensible, practical men, at Little Falls, Herkimer county, New York. The question laid off for discussion was: "Is it advantageous for the farmers of Herkimer to own as large farms as they do?"

The speaker appointed to open the discussion thought that the question was one which affected both the moral and financial interests of the community. He first maintained that the owning of large farms, as a rule, was detrimental to the farming interests; that is, in a financial point of view, and took the following line of argument. He computed the average value of the lands of his county at \$75 per acre, and inquires whether it can be profitable to pay at the rate of \$75 per acre for land, and then cultivate in such a manner as to derive no more profit from one hundred and fifty acres than might be obtained from seventy-five acres? Farmers purchase more land than they can cultivate fully and properly and fail to obtain from it in many instances more than one-half what it ought to produce. The fault does not lie in the land, but in the cultivation and care of it. And the cultivation and care of it are not what they should be, because the farmer has too much land. If, it is argued, he can devote the same amount of care and labor to seventy-five acres that he does to one hundred and fifty, and thus make

it produce the same amount in value, it is clear that the amount of capital which he has invested in the extra seventy-five acres, as far as actual profits are concerned, is a dead loss.

That is, indeed, a legitimate mode of argument, not against large farms, but against the inadequate amount of capital with which farmers undertake to work, and at the bottom of the whole trouble is the farmer's ignorance of his business, and want of confidence in his ability to produce the results which we often hear of, as growing out of the skillful use of abundant capital.

The next argument against large farms is on the score of the great expense of fencing, and the trouble and annoyance and anxiety caused by unreliable fences. This argument is of the same effect as the other. Certainly it is a great evil to have insecure fencing, and no man should undertake to fence two hundred acres who has not means sufficient to fence more than a hundred. The fault again is not that there is more proportional expense in fencing the large, for there is actually much loss, but in attempting to do more than we have the means to do well.

Such are the financial views of the question. Then the speaker argues that owning large farms, farmers are too isolated. He and his family live by themselves. Their farm keeps them so thoroughly occupied that they have no time to give to society. The effect of this is to make him a less worthy member of society, a less useful citizen, more completely absorbed in the cares of his farm, and more supremely selfish.

This too, is an argument not so much against the isolation of distance caused by large farms as against that engrossment in business which a small farmer is about as liable to as a large one. If either stints himself in the necessary help to carry on his business, his time is so taken up that he must give up outside interests. But the larger farm has this manifest advantage, that when this absorption in home interests does take place, the home community being necessarily larger, there is more room for the exercise and cultivation of the "humanities" than on the very small farm. There is a home society which answers all the better purposes of outside association, while it shuns the worse.

"Perhaps one of the most deplorable evils of this owning too much land, is the effect which it has upon the farmers' sons. Accus-

tomed to perpetual drudgery from their earliest years, they learn to look upon farm life and all relating to it with positive aversion. It has no attractions for them, and they naturally look forward with pleasure to the time when they shall be able to leave home, and when it comes, hail it as a release from distasteful thralldom."

All such argument is still based upon the assumption that a large farm (150 acres as the speaker thinks) compels a man to the utter giving up of himself and his family to such an accumulation of cares as unfits him for all the other duties of life, and forbids all of its pleasures. How manifestly false such reasoning is must be apparent even to those whose own experience does not teach them the contrary. A man may become thus overwhelmed by his greedy desire for gain, but we think it rarely happens in country life. There is so much in the quiet, pleasant, moderate satisfactions of a little segregated community and its associations, to wean a man from the immoderate love of gain that it must be a hard nature that resists it. We know the natural love of every man for holding land and for enlarging his borders, is a strong motive with many, but it rarely acquires the power of a passion or tempts a man to forego the daily comforts and pleasures of a plain domestic life.

The next speaker argued that two hundred acres of land, which was about the average of the county, was not too much for a dairy farm, basing his argument on the general success of the farmers of that section, their condition in life, their cultivation and intelligence. "In a dairy country like ours," he said "there is a general tendency to acquire large farms. This is because farmers have found it more profitable to have at least a good sized farm than a small one; one upon which they can keep at least twenty-five cows, and from that up to fifty."

"The farmers of our country can afford to have and do justice to large farms, since all the farm produces is returned to it in fertilizing material. To admit of a judicious breaking up of old pastures and meadows to reseed, and also have land enough under cultivation to use profitably the help necessary to do the milking as it should be done, a good-sized farm is indispensable.

"A man who is master of his business will succeed. Perhaps the farms of this county average from 150 to 250 acres, and were we to

judge by the past and present prosperity of our farmers, we must be driven to the conclusion that about this number of acres makes them healthy and wealthy, and contributes to their moral and intellectual prosperity. The dairies of our county have been eminently successful."

A farmer said that he thought that the best farmers as a rule were those who owned large farms. The size of a man's farm should be governed by his ability to manage it well.

It is probably because of his ability to manage that a man becomes able to buy a large farm, and buys a part of his neighbor's, who is less able to manage. Hence, perhaps, the remark that there are more good managers on large than on small farms.

It was urged that the profits of the dairy depended upon the number of cows kept and the manner in which they were kept. The amount of keeping material depended upon the quality and quantity of the soil. It was thought greater profits could be made from large than from small farms. It is undoubtedly true that, in the matter of farm equipment, the proportion of cost is less for a large than a small farm. There are certain expenses for the homestead, &c., that must be incurred for a farm of say a hundred acres. For an additional hundred such expense would be by no means equally increased. Hence, if the additional land is equally well worked in all respects, it must give more net profit. There is surely no reason that it should not be as well worked if there be capital and skill sufficient.

Another speaker thought a farm should be as large as could be well managed. Fifty cows seemed, in the opinion of several speakers, to be the limit of a profitable dairy. It was inquired whether it was thought profitable to connect grain growing with dairying. The opinion seemed to be that it might be done profitably, but not until the dairy reached the limit of fifty cows. Beyond the necessary provision for these, grain growing would be advisable.

Premiums and Regulations for the First Annual Fair of the Carroll Co. (Md.) Agricultural Society, to be held at Westminster, beginning Sept. 28 and continuing four days.

Premium List of the Pennsylvania State Agricultural Society—Seventeenth Annual Exhibition at Harrisburg, beginning Sept. 28th, and continuing four days.

Literary Notices.

Poem read before the Society of Alumni of the University of Virginia, at their Annual Anniversary Meeting, July 1st, 1869, by John R. Thompson.—We are indebted to the publishers of the New Eclectic for a copy of this poem, gotten up in a style well worthy of so elegant a production—"Apples of Gold in Pictures of Silver."

Memoirs of Deceased Alumni of St. John's College, Annapolis, read by appointment of the Association, by John G. Proud, Jr., A. M.—These are very interesting memoirs of the late John Johnson, Chancellor of Maryland, John Henry Alexander, LL.D., B. T. B. Worthington, Esq., of Annapolis.

The New Eclectic Magazine.—This magazine, apart from its literary merits, which commend it in the highest degree to the lovers and readers of good literature, has a special claim upon Marylanders as a Baltimore publication, and upon all Southern people, as a distinctively Southern magazine. We earnestly advise young men especially to abjure the trashy tales that the weeklies offer them in broken doses, and train themselves, by hard work, if that be necessary, to the more substantial pleasure which awaits them as they become familiar with the productions of the leading thinkers and writers of the day. Because he takes pleasure in reading such a magazine is a very good reason for subscribing to it, and because he does not is a still stronger one. In this case it becomes his duty to bring himself up to it, and that he will surely do by diligent reading. Price \$4.00. Turnbull & Murdoch, 54 Lexington street.

Demorest's Monthly for September is, as usual, ahead of time and of all competitors in its line. It claims to be the most complete and attractive magazine for ladies published in the country, and its claims seem to be freely acknowledged by a large circle of admiring and appreciative readers. It offers special inducements in premiums for new subscribers. Price \$3. 838 Broadway, New York.

The Illustrated Annual of Phrenology and Physiognomy, by S. R. Wells, editor of Phrenological Journal. Price 25 cents. 385 Broadway, New York,

Advertiser's Guide, issued by Cook, Coburn & Co., Newspaper Advertising Agents, 87 Dearborn street, Chicago.—The Chicago Tribune has the following notice:

"We have examined a new and very useful book, entitled the *Newspaper Advertiser's Guide*, just published by Cook, Coburn & Co., Chicago, Newspaper Advertising Agents of our city, giving a complete list of all the different Newspapers, Periodicals and Magazines published in the United States, Territories, Pacific coast, China, Japan, Australia, and Sandwich Islands. To publishers as a book of reference and to general advertisers, it is invaluable. It embraces upwards of 800 pages, giving the location and names up to the present time, of upwards of 4500 Newspapers. A complete and correct list of this kind has long been needed, and is indispensable to all who contemplate doing any amount of general Newspaper Advertising. The whole arrangement of names is so condensed that it can be used for the pocket; and a copy of this Guide or Directory ought to be in the hands of every Merchant, Manufacturer, Inventor and business man in the country. In short, it is a perfect Dictionary to those desiring intelligence regarding Newspaper Advertising. Let every Advertiser send for one."

Report of Wm. H. Carmalt, M. D., Commissioner of N. York State Agricultural Society, for the investigation of Abortion in Cows. We are indebted to the Secretary of New York State Society for a copy of this report.

The Small Fruit Recorder and Cottage Gardener, is a new monthly devoted to the interests indicated by its title, published at Palmyra, N. York, by Pardy & Johnston.

Edw'd J. Evans & Co., of York, Pa., send us their Descriptive Circular of Choice Seed Wheat, Oats, Potatoes, &c.

Mr. Vick, of the famous Rochester Flower Gardens, favors us with his Catalogue of Choice Flower Seeds.

Report of Connecticut Board of Agriculture, 1868.—We are favored by T. S. Gold, Secretary, for copy of this report.

The Maryland Agricultural and Mechanical Association.

The Baltimore *Daily Sun* of Aug. 10th, occupies three and a half columns with a carefully prepared and interesting historical sketch of State Agricultural Societies in Maryland, giving the organization of the Association immediately preceding that now in existence, with a brief notice of its Exhibitions from 1848, to 1860. Also an account of the organization of the new Society its endowments, purchase of grounds, description of the grounds, &c. We should be pleased to copy the article at length, did our limits allow, but must content ourselves with a portion of it, which relates especially to our coming Fair.

TOPOGRAPHY OF THE PIMLICO GROUNDS.

The Pinlico grounds, comprise seventy-seven acres, trapezoidal in form, nearly a square, and are situated about two miles from the northwestern boundary of Baltimore, on a plateau, at an altitude of four hundred and twenty-seven feet above tidewater. This secures at all seasons that salubrity of climate so necessary to health and comfort. The grounds have been enclosed with a substantial fence, the boards twelve feet in length, placed perpendicularly, and secured to firm set locust posts. The surroundings are strikingly picturesque. Forest, field, garden, orchard and cottage stretch out before the eye at every point, and offer to the spectator a beautiful panorama, in which nature and art are pleasantly blended.

THE BUILDINGS—CHARACTER AND USES.

The buildings will consist of a grand pavilion, a handsome club house, a judges' stand, a field stand, horse stables and cattle sheds. The pavilion will be an imposing structure, 280 feet in length, 40 feet wide and 50 feet high from basement to ridge-pole. The upper floor will afford seating capacity for 2000 persons, and the seats are to be so arranged that at no time will a full view of the horses on the trotting track be obscured. The lower floor, stretching the entire length of the building, will be devoted to the exhibition of pomological and horticultural products, ladies' handiwork and household manufactures generally.

The approach to the upper portion of the pavilion is by a flight of steps six feet wide, terminating at a spacious landing about midway, and then diverging to the right and end-

ing at the pavilion floor. This it is calculated will give ample space for ingress and egress to persons who may visit the building, and at the same time relieve from fatigue in ascending. The entire structure rests upon a granite wall three feet thick, is to be built of best Susquehanna pine, the framing of a very substantial character, and secured by iron rods at the top. The roof will be of the Mansard pattern, and handsome brackets and cornice will adorn the upper portions of the pavilion, thus giving a pleasing effect, without sacrificing the idea of massiveness. The aim of the architect here has been to combine safety with architectural beauty. The immense framing timbers, now on the grounds and ready for position, would indicate that the former will certainly be secured, and an inspection of the elaborated drawings now at the architect's office seem favorable to the realization of the latter. The pavilion will be located in the western portion of the grounds, with the view of throwing the sun's rays in rear of all who may desire to witness the trials of speed, as they generally take place in the afternoon. The accomplishment of this result has been lost sight of at Jerome Park, New York, and several other noted tracks at the North.

THE CLUB HOUSE.

This will be a building 47x54 feet. It will comprise a basement of 9 feet pitch, a story above of 14 feet, and another still of 13 feet pitch. An upper and lower piazza, twelve feet in width, will surround the building. The first floor will accommodate a grand parlor 20x46 feet, a dining-room 20x22 feet, a committee room 16x20 feet, a pantry communicating with the culinary department in the basement, locked closets, and a spacious hallway twelve feet wide. The upper floor will be divided into several rooms, which can be used by committees, or for any other purpose that expediency may suggest. The aim will be to make the exterior finish of the club house tasteful and effective. Its location is on the extreme eastern line of the grounds, near the Pimlico road. The pavilion and club house confronting, and standing out in such bold proportions, the judge's and the field stands will be of so much smaller dimensions as to require nothing more in the way of description than the simple remark that they are to be constructed with due regard to taste and in keeping with the other improvements.

THE CATTLE SHEDS, ETC.

The cattle sheds will be located in the north-western portion of the grounds, and built in the form of a semi-circle. The plan is novel and is that of Edmund Law Rogers, Esq., the corresponding secretary of the association. The stalls, unlike those invariably used heretofore at cattle shows, will be fan-shaped, or in other words, somewhat like the old-style worm-fence. This, it is claimed, will economize space and enable both visitors and judges to obtain a full view of the animal from head to flank.

The horse stables will be in the south-eastern portion of the grounds, within convenient distance of the club house and the Pimlico road.

THE HORSE TRACK.

This feature of the grounds requires more care in its survey, location and preparation than all others. In this connection the executive committee secured the services of Gen. John Ellicott, of this city, a practical engineer and an architect as well. Gen. E. with a view to familiarizing himself with fair grounds and horse tracks generally, went north and inspected Jerome Park, the track at Saratoga, Fashion Course, Long Island, and several others. That at Saratoga seemed to combine all the advantages desired, and was adopted as a model for Pimlico. Gen. E. returned, inspected the grounds minutely, fixed upon the exact location and at once made his surveys and fixed his stakes.

The track lies diagonally on the grounds, and is in shape semi-circular at either end, with parallel sides, (the ends and the sides a quarter of a mile each,) with a radius of four hundred and twenty feet at the corners, which it is believed will enable the contestants to make the sweep without difficulty. When the excavating and grading now progressing shall have been completed the track will be nearly or quite level, with the decided advantage of a gentle descent at the starting point. In this respect it conforms to the celebrated Derby track in England, giving the horses momentum at the very outset, and constituting what is universally known among turfites as a "fast track." The track is just a mile in length and will be sixty feet in width throughout, and protected from intrusion by a strong post and rail fence.

WATER FACILITIES.

One serious objection at first entertained

against the Pimlico grounds was the alleged scarcity of water, but this is successfully obviated. A well has been sunk, and at the distance of only twelve feet from the surface from five and a half to six feet of pure, cold water has been obtained. Those experienced in such matters infer that a like experiment on any portion of the grounds will be crowned with similar success.

ACCESSIBILITY OF THE GROUNDS.

Another objection to Pimlico was its inaccessibility, but it is believed that this will be entirely overcome by reason of the various roads and offers of increased facilities in that direction. It can be approached from the city through Druid Hill Park and the Green Spring avenue, also by the Pimlico road, which branches from the Reisterstown road at about a quarter of a mile above the three mile stone and also from the last mentioned road at a point a short distance below the second toll-gate.

On most of these roads the farmers have generously allowed the removal of their fences so as to give a roadway sixty feet wide, and a heavy force is now at work clearing away the undergrowth and preparing these highways for the accommodation of the thousands who will no doubt visit the fair in October. In addition to the pike and other roads, the Northern Central railway have determined to run trains during the fair to Pimlico switch, which will place visitors within one mile of the fair grounds. Here they will find conveyances, or can walk, whichever they may prefer. A line of omnibuses will also run during the fair in connection with the termini of the Madison and Pennsylvania avenue city passenger railway lines. So all who may desire to do so can attend without inconvenience and at a very reasonable figure.

THE COMING FAIR.

The first annual fair of the Maryland State Agricultural and Mechanical Association will take place in the ensuing month of October, commencing Tuesday, the 26th, and the general plan of the arrangements thus far prepared gives promise that it will fully equal any previous display ever witnessed in Maryland, if not in the United States. The fair will continue four days. The grounds will be open for the reception of animals and articles designed for exhibition on the 23d, also on the 25th of October, and all must be entered and

ticketed at the office before entering the enclosure. Bread, cakes, butter, cheese, and slaughtered mutton may, however, be introduced as late as the 26th. All male exhibitors must have previously become members of the society by the payment of \$1, and by subscribing to the constitution, but ladies will be exempt from this charge, and may exhibit their own handiwork, with free admittance during the exhibition. The judges on animals will have strict regard to symmetry, early maturity, size and general qualities characteristic of the breed they judge, and make allowance for age, feeding and other circumstances, but will not give encouragement to over fed animals. Food will be allowed at the following value per head for such variety of stock: Horses \$2, cattle \$1 50, sheep 50 cents, hogs \$1, and hay and straw extra.

Loss by Insect Depredations.

The American Entomologist asserts that one year with another the United States suffer a loss, from the depredations of the insect tribes, to the amount of \$300,000,000 annually. This seems an enormous amount, but when we consider the number of enemies which vegetation has in the bug or insect family and the rapidity with which each saps the life of a plant or the fruit which it produces, the sum, large as it is, will not be deemed an extravagant one. Alluding to these insect depredators, the Entomologist says; "Turn them which way they will, the agriculturists and horticulturists of the Northern States are met by plant lice, bark lice, May bugs, rose bugs, weevils, cut worms, caterpillars, palmer worms, canker worms, slug worms and leaf rollers; and at periodic intervals the army worm marches over their fields like a destroying pestilence; while in Kansas, Nebraska and Minnesota, and the more westerly parts of Missouri and Iowa, the hateful grasshopper, in particular seasons, swoops down with the western breeze in devouring swarms from the Rocky Mountains, and, like its close ally, the locust of Scripture and of modern Europe, devours every green thing from off the face of the earth."

The Southern States, though exempt from the ravages of many insects peculiar to the Eastern, Central and Western States, are subjected to great losses from the cotton worm—a scourge which often sweeps off one-third or more of the entire crop.

Depth of Covering Seed Wheat.

The following article, communicated to the *Farmer and Planter*, Richmond, makes a suggestion as to the depth of covering seed wheat which is worthy of very serious consideration, and should lead to careful observation in the direction indicated by the writer. The readers of the *American Farmer* know how much consequence we attach to the proper rooting of wheat in the Fall. May not the common practice of covering be so much at fault as seriously to interfere with this?

"Before the introduction of the wheat drill into common use, either the harrow, the single shovel or the double shovel plough, was generally adopted, in Eastern Virginia, as the most improved implement for covering wheat sown broadcast. The most successful farmers in the lower valley generally preferred the single shovel plough, following its use, however, with careful harrowing, until the surface was rendered smooth and fine. The use of the drill has extensively revolutionized former practices in both of these sections of the State, not to speak particularly of changes elsewhere. A more thorough preparation of the ground by the use of the harrow and roller, was demanded as indispensably necessary in the successful operation of the drill. One of the peculiar advantages claimed for this instrument is, that it deposits the grain deeper, and of more uniform depth, than could be attained by any of the other modes of covering previously in use.

"I believed, theoretically, in the importance of sowing deeply, and was inclined to adopt it as an axiom, 'that the deeper the covering the less liability of the wheat to be spewed up and winter-killed.' I believed that the alternate freezing and thawing of the ground during winter and early spring, was the best preparation it could receive to fit it for the nourishment and invigoration of the growing plant. Cherishing these theoretical views, I was not prepared for the frequent disappointment of my expectations which occurred in regard to the effects of deep sowing upon the productiveness of the crop. I resolved, however, to test these theories by experiment before I could be satisfied to relinquish my predilection for them. In pursuance of this resolution, I selected for trial a rich lot of ten acres, which I sowed very deeply with the drill. The following spring I expected to see a strong and vigorous growth, but confess to

no small disappointment at finding it very backward in branching, and of slow growth and imperfect development. This led me to examine it closely and frequently during the progress of the season, to see if I could discover the cause or reasons of its unthriftiness. I discovered at each examination that many of the plants were decaying, and by the first of April, that thousands had rotted off at or near the surface. Moreover I could find not a living plant with more than four blades, and these were exceptional, the rule being from two to three blades to the stalk. These blades were all of them narrow and pointed, standing erect, and showing no tendency towards branching out. On the 14th of April I examined another small lot of rich land, which I had sown after completing the regular seeding of the previous autumn. This lot had been nicely prepared, and the wheat drilled in to the depth of three or four inches. One of the tines of the drill near the centre had a crack in it, by means of which some of the seed was scattered on the ground along the track of this defective tine; the driver using double lines, took a central position behind the drill, and walking after it, trod on many of the scattered grains, which caused them to take root and flourish. The result of my observations may be summed up as follows:

"The wheat regularly drilled in had from three to five blades all standing erect, while that which had been covered by the driver's foot, not more than half an inch deep, had from eight to fourteen blades, all extended flat upon the ground, broad-leaved and vigorous, while the drilled plants were distinguishable by their sharp-pointed, grass-like blades, standing upright. I afterwards examined other fields which had been cultivated in various ways, and without an exception I found that the wheat which had been covered, how lightly soever, was sure in the month of April to exhibit more branches and a comparative superiority over all other wheat of greater depth of covering.

"From these observations, I am satisfied that, when the land is reduced to *proper fineness*, and the wheat is barely covered, say not more than an inch deep (half an inch would be better), is the best mode of seeding wheat which has yet been tried. But as it is generally sown, especially in Eastern Virginia, on rough, unrolled land amongst the clods, it appears to me the very worst and most costly

mode of preparation that can be adopted.—Let every farmer test the matter for himself. Let him this fall select a piece of ground far enough off from his homestead to secure it immunity from the depredations of fowls, etc., and there make an experiment after this manner: with a grubbing hoe, open a trench nine or ten feet long, graduated in depth from one inch at the beginning to nine or ten inches at the end; then drop a grain of wheat every three or four inches upon this graded bottom; then cover up evenly with the surface of the trench. Let him also open another drill as nearly resembling the mark of the drill time as possible; then let him drop the wheat exactly as was done in the trench as to distance; cover it with fine earth from a half to three-quarters of an inch deep, thus just hiding it from the birds; let it be examined after rain, and if any of the grain is uncovered, let it be again very slightly covered as at first; then leave it to itself, except to pull up any large weeds which may spring up to obstruct its growth; and when all has been completely and accurately done, wait for results, and report them to the *Southern Planter and Farmer*.

"The manner of seeding first mentioned, with shovel plough simply, or with the plough followed with harrows, without proper examination, would be considerably deep seeding. Harrowing in wheat on land previously well prepared used to be considered deep seeding. Let all who now think so, examine the field after the first good rain, and again examine it the following April, and my word for it, they will find the greater portion of the good wheat was covered very shallow at seed time.

"Why, let me ask, is tap-rooted clover thrown out by frost? It certainly extends its main root far below the reach of frost.—Again: how is it that the timothy plant, which is shallow-rooted, and has to be sown in the fall on the surface, and put in by the first rain, is never cast out of the earth by frost? Does it not appear that the *shallow-rooted* winter plant rises up with the frosted earth, and returns with it when thawed? Admit this as true, and observe but to a limited extent, and you will be convinced of the fact that thousands are lost every year in Virginia by excessively deep seeding. I. I. HERR.

Arrington Depot, Nelson Co., Va.

Plaster of Paris—Its Value on the Farm.

"In a former paper I mentioned the failure of plaster in different localities to benefit the crops where it had formerly been profitably used. The causes of this failure seem to me to be clearly explained in soil and plant analysis. We find in these analyses that the elements of the former which are in the smallest quantities, viz: the phosphates and potash, form by far the largest in the latter. Hence it is that fertility depends mainly upon those elements of which *traces only* sometimes appear in the analysis of the soil. So long as there is in the soil a sufficiency of these inorganic constituents, plaster no doubt may be beneficially applied. Perhaps in no way can ammonia, that essential organic constituent of the wheat crop, be more economically supplied than by the use of plaster in connection with clover as a manurial crop. But whilst we are thus providing for the *organic* wants of the clover and cereal crops, the fact should not be forgotten that there are essential inorganic constituents of these crops, which when wanting in the soil, plaster cannot supply. As every element which is found in the clover and cereal crops is necessary to their constitution, there is nothing plainer than this, that a soil containing a limited supply of the alkalis and phosphates as is doubtless the case with most of the cultivated lands in this State and other localities, would be deprived of these elements at an earlier period than if no plaster had been used. If the clover crop, stimulated by the action of plaster, is increased one-half, as is sometimes the case, it has taken up one-half more of the phosphates and potash of the soil than would have been obtained without it.

"I have heretofore had occasion to mention the failure of plaster to benefit the clover crop on one of the oldest cultivated fields of the farm I lately owned. The true cause of this failure was to my mind satisfactorily explained by the marked deficiency of the phosphates and potash as declared in the soil analysis. When plaster could no longer be profitably applied, liberal applications of leached ashes and barn-yard manure were required to restore to the soil a portion of the organic and mineral elements of which it had been deprived by an exhausting system of cropping, before it could again be made to yield remunerative crops of clover and wheat.—Ashes are still freely applied at proper inter-

vals upon the sandy loams of this farm by its present intelligent owner, with a full conviction of their value as mineral fertilizers.

"The valuable investigations of Dr. Groven, as recorded by Liebig, seem most clearly to explain the reasons of the failures of plaster in some instances to benefit the clover crop where it had in former years been profitably used. In his examination of diseased clover taken from "clover-sick fields," he found the analysis of its ash constituents declared a marked deficiency of the phosphates and potash as compared with the ash of healthy plants. Groven, from the results of his examinations, unhesitatingly attributed the primary cause of the clover disease "to a change in the chemical condition of the plant, which is again caused by an altered condition of the soil."

"It will be perceived that the analysis of the soil taken from the field on my farm showed a deficiency of the same mineral elements that were partially wanting in the diseased clover plant.

"The late Prof. Jas. F. W. Johnston in one of his able lectures before the New York State Agricultural Society on the "General Relations of Science and Practical Agriculture," speaks of the marked beneficial effects of bone dust upon the dairy lands of Cheshire, England, in restoring the special-exhaustion of those lands. For centuries they had been under dairy husbandry, and had consequently been largely deprived of the phosphates which had been carried off from the soil in the milk of the cow. Says Prof. Johnston, "the discovery of this kind of manure applied to the grass lands of Cheshire may be estimated from the fact that lands which once paid but five shillings per acre of rent have been made to yield forty shillings of rent, besides a good profit to the dairymen." No mention is made by Prof. Johnston of plaster having been used on these lands.

"A moment's reflection, I think, will convince us that its use would only have hastened this special exhaustion of the phosphates which were again restored to the land when the bone dust was applied. Now, as about one-half of the ash of the grain of wheat is composed of phosphoric acid, which constitutes a very small percentage of the most fertile soils, the same special exhaustion will necessarily take place on a wheat farm as did on the dairy lands of Cheshire, if no provision

is made to supply the frequent removal of the phosphates by successive crops of clover and wheat. When the clover crop directly, and the wheat indirectly, are largely increased for a time, as they usually are by plaster sown on the clover, this special exhaustion will occur sooner than it otherwise would.

"It is not surprising, with these facts before us, that some farmers have been strongly opposed to the use of plaster on the farm, regarding it in the end as an impoverisher of the soil. The same objections, however, might be made to the use of lime, bone dust, or any special fertilizer, when constantly used as substitutes for other manures. No one can question the benefits to be derived when they are properly used. The same may be said of plaster. During the last twenty-five years it has been freely applied to my clover crops, with a full conviction, at the same time, of the general truth that the soil cannot be brought into condition, nor can it be retained in fertility if no returns are made to the land of the plant food which plaster can not supply and which each successive crop is carrying away.

"The report on fertilizers by the committee appointed by the Calhoun Co. Agricultural Society, and published in the Sixth Annual Report of Secretary Howard, endeavors to show the proper uses of the different fertilizers, how and when they may be properly used."—*Exchange*.

The English Sparrow.

Is the sparrow the gardener's friend or foe? This is a question which has often been discussed, and the verdict has almost invariably been in favor of the sparrow. In the face of all evidence, however, there is a popular prejudice against this little bird, the reason probably being that he boldly commits his crimes before our eyes, while his good deeds, which far outweigh his trivial delinquencies, are done by stealth. Our friends in Australia were unhappy until they could get sparrows from home, and now, after having them less than 4 years, they begin to think all manner of evil regarding them. Edward Wilson, whose labors in the department of acclimatization are universally recognized, and to whom, if I mistake not, Australia owes its sparrows, has been asked to produce authentic information as to the balance of its merits and demerits. He has done so; and he has recently commu-

cated the result in one of the daily papers. He has ascertained that no less than 1400 cockchafers' wings have been found below the nest of one pair of sparrows. Each female insect produces about 40 grubs, which burrow for 3 years in the ground, preying upon the crops during this time to an enormous extent. As many as 100,000 of these grubs have been found on one acre of land, and as each acre will grow about 40,000 mangolds or turnips, there are about three grubs to each root! In some years the damage done by this single insect in France alone has been estimated at the astounding sum of 40 millions sterling! A very simple calculation shows that simple in feeding their young, a pair of sparrows annually prevent the production of 14,000 grubs; and the account in favor of the birds is not yet complete, for

When e'er they take their walks abroad
How many grubs they see.

and no doubt dispose of, (to say nothing of insects,) without leaving any record of their good deeds; for sparrows by no means restrict themselves to cockchafers, even when these delicacies are in season, but will eat almost any kind of insect or grub that comes in their way. Wood, in his illustrated Natural History, 1862, states that a single pair of these birds were once watched for a day, and were seen to carry their young no less than 40 grubs per hour. Such labors as these are not to be disregarded. Let a somewhat stout farmer, especially if he be dressed in the orthodox style of top boots and rather tight clothing about the girths, attempt to bring home 40 grubs an hour, and we are much mistaken if at the end of that time he does not feel a greater respect for the sparrow, and I think that their labor, which he can now better appreciate, in destroying his natural enemies, fully entitle them to the seeds and fruit to which they occasionally help themselves. Let our Australian friends accept Wilson's conclusions without hesitation. Wherever the sparrows and other small birds have been exterminated, the crops have been destroyed by the consequent increase of insects, and in several cases the same governments which ordered the destruction of birds have been compelled to revoke their law and issue orders for their protection. The balance of Nature cannot be rashly interfered with by blind mortals without evil consequences.—*British Magazine*.

The Peach Crop of Maryland and Delaware.

Although the peach season has just begun, the markets are filled with the fruit, and the supply is so great that the price had fallen so low as to afford but a small profit to the producer, and in many cases scarcely any to the dealer in this city. The fruit is now pouring into the market at the rate of over forty thousand bushels daily, and the prices range from 60 cents to \$1 25 per basket. Hucksters' wagons, loaded with peaches, penetrate to the remotest corners of the metropolitan district, where they are peddled to the peach-loving community at very reasonable rates which still afford the venders a good profit. Three cents a quart is considered cheap enough by even the poorest, but even that is dear when the small size of the quart measure is borne in mind.

The peaches now in the market are from Maryland and Delaware, and are brought by the New Jersey Transportation Company and branches. The following table will show the number of baskets collected at the various stations in these two States on the line of branches of this road on August 6, and from this table an estimate may be formed of the immensity of the supply now pouring into market.

Laurel.....	1,000	Brentford.....	1,000
Seaford.....	1,000	Clayton.....	4,000
Georgetown.....	8,000	Sassafras.....	2,000
Milford.....	1,000	Blackbird.....	500
Poree.....	7,000	Millington.....	2,000
Bridgeville.....	1,000	Massey's.....	500
Greenwood.....	500	Vandyke.....	500
Harrington.....	1,000	Morris.....	500
Felton.....	3,000	Townsend.....	2,000
Canterbury.....	500	Middleton.....	2,000
Camden.....	5,000	Mt. Pleasant.....	500
Milton.....	1,000		
Total number baskets.....		45,000	

For the last fortnight there have been arrivals of nearly one hundred cars per day, laden with this fruit. The trees in the peach districts of Delaware are reported to be breaking down with the weight of their burden, hence moderate prices may be expected through the season. In about three weeks the supply will be at its height. There are about fifty firms in New York engaged in the wholesale branch of this trade. Most of them buy the crops upon the ground, charter cars for transportation for the season, all of which are marked with the name of the firm and fastened with private locks. Each car brings about five hundred baskets. Four or five of these trains arrive daily; the first reaching Jersey City about 2 o'clock in the morning, they continue

to come in until about 5 o'clock. During the last six days about 519 carloads have been received, containing in the aggregate about 260,000 baskets. Of these a single firm, who are probably the largest wholesale dealers, receives about 8,000 baskets per day.

We have had no crop equal to that of the present season since 1865. In 1866 the crop was very fair. In 1867 there was a good yield. In 1868 the crops was almost a complete failure. It is believed that the yield of this year will exceed that of 1837 by 500,000 baskets, reaching the aggregate of 8,000,000 baskets. Some dealers estimate as high as 4,000,000.—*New York World.*

How to Keep a Cow in the City or Village.

All agree that really good fresh milk, from healthy and properly fed cows, is the best possible food for children and youth. But *how*, ask our city friends, shall we get it? This question has been asked many times; we would say, keep your own cow.

This is, perhaps, not so difficult and expensive a matter as you imagine; even a good cow costs comparatively little at first. She requires less room than one would suppose; and she will almost invariably pay her keep and a profit in milk. If not short of storage room, procure a small load of *loose* hay, as brought to market on wagons; the quality can be better seen than when compressed into bales. If cramped for room, get a few bundles of baled hay. A straw or hay cutter, costing from \$3 to \$6, will be requisite. Straw or corn stalks will answer very well as an occasional substitute for alternating with hay.

Procure at a feed store a few bags each of ground feed (corn and oats ground together,) and as much shorts (wheat bran), and you have all that is really necessary. It is advantageous to give a little green food, such as turnips or potatoes, occasionally. Saw a barrel in two, for a couple of boxes, one to mix and the other to feed in. Cut a quantity of hay, and mix about *half a bushel* of it with *three quarts* of the ground feed, and as much of the shorts, wetting it until the meal adheres to the hay. In very cold weather it is better to heat the water a little. Feed a "mess" of this kind and amount to the cow in the morning, and as much more at evening, and fodder with dry, uncut hay, at noon. Give as much pure soft water to the animal

twice a day, as she will drink. It often happens that a quantity of turnips, carrots, parsnips, cabbages, or beets, are left on the hand of vegetable dealers, which can be cheaply purchased. They form a valuable addition to the "mess," cut and mixed with it.

It is also better for the animal to have an occasional change of diet. Carrots, especially, are very good for stock of all kinds, and may be fed to milch cows without affecting the milk unfavorably, which turnips will sometimes do when fed in large quantities. When turnips are fed, they should be given at or just after milking, as there is then less danger of their giving an unpleasant taste to the next milking.

A cow provided for as above, with her apartments kept clean and neat, and well ventilated, will furnish a large supply of nice, rich, *healthful* milk, to say nothing of cream for the coffee. And unless you give an enormous rent for the small space of ground she must occupy as stable room, "she will much more than pay her way."—*Am. Stock Jour.*

How to Produce Sexes at Will,

Many plans have been suggested, and perhaps some of them have not received the attention they merit. Some physiologists have supposed that one ovary produces males and the other females. A more plausible theory is that of M. Thury, Professor in the Academy of Geneva. He observed that the queen bee lays female eggs at the first, and male eggs, afterwards; that with hens, the first laid eggs give female, the last male products, that young bulls, who meet the female at the first signs of heat, generate heifers more frequently than old bulls, who are exhausted and do service later; that mares shown the stallion late in their period, drop horse colts rather than fillies. He formulated this law for stock-raisers: "If you wish to produce females, give the male at the first sign of heat; If you wish males, give him at the end of heat." We have before us the certificate of a Swiss stockgrower, son of the President of the Swiss Agricultural Society. Canton de Vaud, signed in February of the present year, (1867), which says, speaking of the accuracy of the law: In the first place, on twenty-two successive occasions I desired to have heifers. My cows were of Schwitz breed and my bull a pure Durham. I succeeded in these cases." Having bought a pure

Durham cow, it was very important to have a new bull to supercede the one I had bought at great expense, without leaving to chance the production of a male. So I followed accordingly the directions of Professor Thury, and the success has proved once more the truth of the law. I have obtained from my Durham bull six more bulls, (Schwiz-Durham cows), for field work, and, having chosen cows of the same color and height, I obtained perfect matches of oxen; my herd amounted to forty cows of every age—in short, I have made, in all, twenty-nine experiments after the new method, and in every one I succeeded in the production of what I was looking for—male or female. I had not one single failure. All the experiments have been made by myself, without any other person's intervention; consequently, I do declare that I consider as real and certainly perfect the method of Professor Thury." In August, 1863, M. Thury, submitted his plan to the Academy of Science at Paris; it was tried, on the recommendation of that body, on the Emperor's farms, with, it is alleged, the most unvarying success.—*Surgical Reporter.*

Lawn Grass Seed.

This subject is wonderfully *mixed up*. We see a mixture of English grasses, some eight or ten, with novel names, recommended in many of the papers, from year to year, becoming really a mere stereotyped edition of the same receipt. If the English climate, with its constant moisture, its freedom from sudden changes, and comparative freedom from long continued droughts, could also be imported, these foreign grasses might be made available perhaps. A good lawn, with an evergreen greenness in this country is a luxury, not to be attained without *expense*. Where it is being newly laid out, there is not much difficulty; deep and thorough ploughing and subsoiling, with fine pulverization, and stable manure copiously applied and ploughed down, are the important prerequisites; after which, all the grasses needed are, Kentucky Blue grass with a little White clover and English Perennial Rye grass. Use not *less* than 25 pounds per acre of seed, and 40 pounds would be much better—and of this mixture, two-thirds should be the first named.

Where grounds are already planted with shrubbery and trees, so that ploughing is an

impossibility, a good plan is, the sowing of a few pounds of the above mixture, early in the spring, before the ground has become settled, in places where the grass shows a disposition to run out; afterwards top-dressing must be relied on. Four bushels of salt to the acre we have known to have an excellent effect, in addition to superphosphate of lime, bone dust, plaster, lime, ashes. We do not recommend all these at once, or even the same season; but they should be tried alternately. So important is it to keep up greenness and fertility and so great is the difference in soils, that the owner of a handsome lawn should experiment by sowing strips of these, so as to find out which suits his ground the best. A good dressing of short manure in the fall of the year is indispensable. Unless in rare cases, where perhaps an impervious clay approaches the surface, we think a good sod can be permanently kept up by using these different top-dressings at different times.

Another means of fertility is allowed the fine mown grass in the lawn to lay on it. Frequent mowing leaves this so thin as to do no harm, and it answers the purpose of a mulch as well as a supply of the very elements of its own nutrition.—*Prairie Farmer.*

Why do Our Crops Diminish.

There has been a vast amount of writing done, to show that our crops have fallen off in quantity, and all owing to the land being injured by injudicious cultivation, and cropping.

Now no doubt but that is true to a great extent, but from my observation through a life nearly all spent in farming, I am satisfied that there is some other cause or causes for our diminished crops.

In my boyhood I lived in Ohio, moving there in 1813. At that time, the common practice was to harrow in the wheat in the corn fields in October, and we seldom failed having a good crop, but about the time when I began to farm for myself, wheat had got to be so uncertain that I raised only two crops in eighteen years. Now I know that there was something more wanting than new land, for when we tried that, it did not give the crops like those which we had in the early days of the pioneer. So much for Ohio.—About Indiana I am not so well posted, but the reports of fine crops in Illinois were so

great and marvelous, that after allowing for great exaggeration, they were beyond anything that is raised on new prairie now.

In 1851 I moved to Iowa, and the universal testimony of my neighbors was, that when that part of the State was first settled, they could get fine crops of winter wheat on the fresh broken prairies, and they said they might scratch it in any way, and they were sure of a good crop; but something had changed, so that while I lived there about eight years, I never knew but one man to sow a bushel of winter wheat on the prairie, and that was a complete failure. Now it was not for want of fresh land, for not an eighth of the country was in cultivation when I moved there.

We all know that twenty years ago Wisconsin was great on winter wheat; and how much does she raise now, and there is a great deal of new land there yet. Not only winter wheat, but nearly all other crops were better than they are now with the same cultivation and the same kind of land.

I have thought a great deal about it, and tried to form some theory that would account for it. That it is not all in the land, I am certain, for I have seen it tried, and found wanting. I have sometimes almost believed that the doctrine of the New Jerusalem Church, that God takes especial care of children, must be true, and that pioneer settlers were included with them. I should be glad if any one can give the cause of the change, for I confess that I cannot solve it.—*Cor. Prairie Farmer.*

A correspondent of the Journal of Agriculture says he finds his clay loam grounds increase more in productiveness by the use of eight bushels of salt to one bushel of plaster per acre, than from the application of barnyard manure.

On a truck farm of a little less than 90 acres in Monmouth county, N. J., there was realized last year a profit of nearly \$80 per acre, \$6,789.67 in all. There was paid for labor \$1,640.50, and for manure \$2,294.

Wood-ashes contains all the inorganic ingredients which growing trees extract from the soil, and in consequence are justly regarded as the best fertilizer for apples, pears, peaches, plums, etc.

SUNDAY READING.

The worship of the Church Triumphant is wholly made up of hymns, without any mixture and alloy of supplications. For why? Their wants and wickedness, which are the subjects of them, are ceased; all the evils, which fill the litanies of the Church Militant, are passed away. And they, that are redeemed from them, have nothing to do in heaven but to sing praises to their Redeemer; which they do before the throne, as we read, "resting not day nor night." So that we may measure the excellency of praise above prayers and supplications with the same argument, as St. Paul doth the excellency of charity above faith and hope, not only from its properties, but from its duration, because "it never faileth."—Praise ceaseth not with the state of mortality, like the other, but will accompany the saints into heaven, even as charity will; praise being, if we may so speak, the religion of the saints above, as charity their work and employment; who shall have, and who can be conceived to have, nothing to exercise either their devotion or communion, but the praises of God and the love of one another.

Some there be, that for extreme refuge in their evil doings, do run to God's predestination and election, saying that, "if I be elected to salvation by God, I shall be saved, whatsoever I do;" but such be great tempters of God, and abominable blasphemers of God's holy election; they *cast themselves down* from the pinnacle of the temple in presumption, that God may preserve them by His angels through predestination.

Take heed life be not done before we think of living, or dying, as we should and would, lest our candle be out, or a feeble snuff in the socket, before we set to work. Remember, upon this moment depends eternity; nor is the accurate work of our salvation, which must last to eternity, and be seen in heaven, to be done by a dim, foul light.

The burning lamp is the well improved talent; the lamp *gone out* is the unemployed talent, hidden in the earth.

Hell is like to be full of good wishes, but heaven full of good works.

Of these sweet ingredient perfumes (Petition, Confession and Thanksgiving,) is the incense of prayer composed, and by the Divine fire of love it ascends unto God, the heart and all with it; and when the hearts of the saints unite in joint prayer, the pillar of sweet smoke goes up the greater and fuller.

O my soul, detach thyself from all things. What have you to do with these creatures of change? Be intent on this one thing, the expectation of the Bridegroom, who is the author of every creature. Let Him, whenever it pleases Him to visit thee, find thee free from distractions, and ready to welcome Him.

There will come a time when three words uttered with charity and meekness, shall receive a far more blessed reward than three thousand volumes written with disdainful sharpness of wit. But the manner of men's writing must not alienate our hearts from the truth, if it appear they have the truth.

Next to the devout exercises of religion, perhaps nothing will more completely remove sadness and disquietude than the silent eloquence of flowers, and the vocal music of birds.

Many men take a great deal more pains for this world than heaven would cost them; and when they have it, do not know how to live to enjoy it.

A Christian congregation calling upon God, with one heart and one voice, and in one revered and humble posture, looks as beautiful as "Jerusalem, which is at peace with itself."

Whatever God himself has pleased to think worthy of His making, its fellow-creature, man, should not think unworthy of his knowing.

Mortification and prayer must ever go together, or prayer will degenerate into formality.

Nature has perfections, in order to show that she is the image of God; and defects, in order to show that she is only His image.

Whosoever labors not *with God* is idle, how busy soever he seems to be in the world.

Some persons instead of "putting off the old man," dress him up in a new form.

THE AMERICAN FARMER.

Persons ordering Goods of our advertisers will confer a favor by stating that they saw the advertisement in the "American Farmer."

WORTHINGTON & LEWIS, Publishers.

Baltimore Markets, Aug. 26, 1899.

COFFEE.—Rio, 15½ a 17½ c., gold, according to quality; Laguayra 16a 18½ cts., and Java 22a 23½ cts., gold.

COTTON.—We quote prices as follows, viz:

Grades.	Upland.	Gulf.
Ordinary.....	30 a—	00
Good do.....	32 a—	00
Low Middling.....	33 a 33½	00
Middling.....	33½ a 34½	00

FERTILIZERS.—Peruvian Guano, \$85; California \$70; Relunda Island, \$30; Patapasco Company's, \$60; Reese & Co's Soluble Pacific Guano, \$60; Navassa Guano, \$30; Chesapeake Guano, \$60; Flour of Bone, \$60; G. Over's (Kettiewells) AA Manipulated, \$70; A do. \$60; Ammoniated Alkaline Phosphate, \$55; Alkaline Phos. \$45; Baltimore City Company's Fertilizer, \$40; do., Flour of Bone, \$60; do., Ground Bone, \$45; do., Poudrette, \$25; Baugh's Raw-bone Phosphate, \$56; Baugh's Chicago Bone Fertilizer, \$48; Baugh's Chicago Blood Manure, \$48; Maryland Powder of Bone, \$45; Rhodes' Super-Phosphate, \$50; Rhodes' Orchilla Guano, \$30; Lister's Bone Super-Phosphate \$55; Berger & But's Super-Phosphate of Lime, \$56; Andrew Coe's Super-Phosphate of Lime, \$60; Zell's Raw Bone Phosphate, \$56; Zell's Super-Phosphate of Lime, \$60—all per ton of 2,000 lbs.; Rath's Challenge Soluble Phosphate, \$60; Whann's Raw Bone Phosphate, \$56. Pure Ground Plaster, \$14.75 per ton, or \$2.25 per bbl. Shell Lime slaked, 6c., unslaked, 11c per bushel, at kilns.

Flour.—Howard Street Super, \$6.25a 6.75; High Grades, \$7.50a 8.00; Family, \$5.25 a 9.25; City Mills Super, \$6.50a 7.25; Baltimore Family, \$11.25.

Eye Flour and Corn Meal.—Rye Flour, \$6.55a 6.75; Corn Meal, \$5.25a 5.50.

GRAIN.—Wheat.—Good to prime Red, \$1.50a 1.60; White, \$1.45a 1.75.

Eye.—\$1.00a 1.15 per bushel.

Oats.—Heavy to light—ranging as to character from 70c. to 80c. per bushel.

Corn.—White, \$1.10a 1.14; Yellow, \$1.10a 1.15 per bushel.

HAY AND STRAW.—Timothy \$21a 25, and Rye Straw \$23 per ton.

PROVISIONS.—Bacon.—Shoulders, 16½ a—cents; Sides, 19½ a 19½ cts.; Hams, Baltimore, 24½ a 25 cts. per lb.

SALT.—Liverpool Ground Alum, \$1.35a 2.00; Fine, \$2.70 a 3.00 per sack; Turk's Island, 45a 48 cts. per bushel.

SEEDS.—Timothy \$4.12½ a 4.50; Clover \$9.00a 9.50; Flax \$2.55.

Tobacco.—We give the range of prices as follows:

Maryland.	
Pressed to common.....	\$4.00a 5.00
Sound common.....	5.50a 6.50
Middling.....	8.00a 10.00
Good to fine brown.....	11.00a 15.00
Fancy.....	17.00a 30.00
Upper country.....	7.00a 35.00
Grand leaves, new.....	3.00a 12.00

Ohio.	
Interior to good common.....	4.00a 6.00
Brown and greenish.....	7.00a 8.00
Medium to fine red and spangled.....	9.00a 13.00
Fine spangled.....	12.00a 25.00
Fine yellow and fancy.....	30.00a 40.00

Wool.—We quote: Unwashed, 30a 33 cts.; Tub-washed, 34a 37 cts.; Pilled 36a 37 cts.; Fleece 46a 48 cts. per lb.

CATTLE MARKET.—Common, \$4.00a 5.00; Good to fair, \$4.00a 5.00; Prime Beeves, \$7.00a 8.37½ per 100 lbs.

Sheep.—Fair to good, 4a 5½ cts. per lb., gross.

Hogs.—\$12.75a 13.50 per 100 lbs., net.

Wholesale Produce Market.

Prepared for the American Farmer by HEWES & CO., Produce and Commission Merchants, 61 Exchange Place.

BALTIMORE, Aug. 26, 1899.

BUTTER.—Western solid packed 25a 32 cts.; Roll —a—; Glades 28a 32; New York 30a 35; Franklin street 30 cts. for regular lots.

BEEF.—45a— cts.

CHEESE.—Eastern, 15a 18; Western, 13 to 17 cts.

DRIED FRUIT.—Apples, 6; Peaches, 5a 8.

EGGS.—21 cents per dozen.

FEATHERS.—Live Geese, — to — cents.

LARD.—Western, 21; City rendered, 21½ cts.

TALLOW.—11a 12 cents.

POTATOES.—Old, —a— cts.; New \$0.50a 1.00 per bbl.

NEW ADVERTISEMENTS—SEPT.

Fertilizers.—Md. Fertilizing Manufacturing Co.

Wm. Crichton & Son.

P. Zell & Sons.

Nurseries, Plants, &c.—Smith, Clark & Powell.

Ellwanger & Barry.

Henry K. How.

John Saul.

Hoopes Bro. & Thomas.

James Vick.

Charles Collins.

F. K. Phoenix.

W. S. Little.

Stephen Hoyt & Son.

H. D. Nyland.

J. Madison Fullen.

Stock.—Jenkins, Skiles & Co.

J. D. Richardson & Co.

Oden Bowie.

Fowls.—A. B. Neill & Co.

Grist Mill—W. L. Boyer & Co.

Paint—Bldwell & Co.

Vinegar—F. I. Sage.

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25,000 Dorchester Blackberry Roots	15	2.50
50,000 Lawton Blackberry Roots	9	1.50
2,000,000 Wilson Albany Strawberry Plants	3	1.00
10,000 Agriculturist Strawberry Plants	4	1.00
Queen of Holland Strawberry Plants	35	per dozen.
Grape Wood, Concord, 85 cents per 1000 buds.		
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Samples for 25 cents.

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We are now prepared to fill orders more promptly than during the past year and a half; having at great cost and care in selection, increased our Breeding Stock of

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To a capacity that will enable us to supply our customers at shorter notice. We also have the finest stock of

SUFFOLK HOG

And warranted both to be pure and as good as any offered. Send for circular of prices and instructions necessary for the management of Swine. Fine Brahma and other improved fowls at reasonable rates. We cordially solicit your patronage

sep-1f

JENKINS, SKILES & CO.,
Thomasville, N. C.

Peach Trees. Peach Trees.

An unusually heavy stock at low rates, strong and thrifty, 4 to 6 feet high, best market kinds. A complete line of stock in every department. The

"BOOK OF EVERGREENS,"

A practical treatise on the cane-bearing plants; by Josiah Hoopes. Sent per mail, prepaid, on receipt of price, \$3.

HOOPEBRO. & THOMAS,

Cherry Hill Nurseries,

West Chester, Pa.

sep-2t

JOHN S. REESE & CO.,

OFFICE 10 SOUTH ST., 2d Floor.

FLOUR OF RAW BONE.

We will give a money guarantee of the purity of this article. It is *unsteamed, unburnt bone*, reduced to the fineness of *Flour*.

100 lbs. contains 33 lbs. of *animal matter*, and *yields* $4\frac{1}{2}$ lbs. *actual ammonia*, which is all that pertains to *raw bone*.

Bones subjected to *steam pressure* lose a large part of their *animal matter*, and hence their value is *greatly impaired*. When steamed, they can be made tolerably fine by ordinary means. They may be detected by their peculiar white appearance and the absence of *odor*.

100 lbs. *Flour of Bone* contains the value of 150 lbs. of *acid dissolved bone*, or *Super-Phosphate*, because *one-third* of properly dissolved bone is acid and water. *Flour of Bone* is as quick and active as *Super-Phosphate* or dissolved bone, and is consequently worth at least 25 per cent. more per ton. We recommend 250 lbs. per acre, where 300 lbs. *Super-Phosphate* or dissolved bone would be applied. The manufacturers are the patentees of the only known machinery by which raw bone can be reduced to the fineness of flour.

JOHN S. REESE & CO.,

No. 10 SOUTH STREET, (2d floor,)

SOLE AGENTS.

aug-2t

RUTH'S CHALLENGE SOLUBLE PHOSPHATE.



This fertilizer is prepared in Baltimore from the very best materials and designed especially to take the place of A. No. 1 Peruvian Guano. It will be found as active as Guano and much more durable in its effects.

It is made upon the principle that the measure of our prosperity is the prosperity of the farmer, and every one who uses it may confidently rely upon large crops, unless injured by providential acts. It is indeed the "CHALLENGE" Fertilizer of the times, and in order that it may always remain such, we have engaged in its manufacture the very best chemical skill in this country.

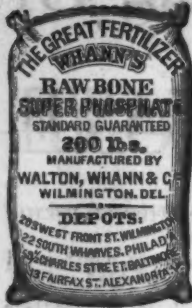
Price in Baltimore \$60.00 per ton of 2000 pounds.

For further particulars address

R. J. RUTH & CO., 79 South street, Baltimore, Md.

For sale by responsible dealers everywhere.

aug-3t



WHANN'S Raw Bone Super Phosphate,

THE GREAT CROP PRODUCER,

And complete renovator of worn-out soils. An active, durable and reliable article. Try it and be convinced as others have been that it is the best that you can buy.

Price \$56 per ton, packed in 200 lb. bags, 10 bags to the ton.

E. G. EDWARDS, Agent,

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57 S. Calvert st., near Pratt, Baltimore, Md.

REDONDA GUANO.

A pure, natural Guano, direct from REDONDA ISLAND, W. I. Ready for immediate use and requiring no preparation.

THE
Cheapest Fertilizer
in the market.

Has been successfully applied upon every variety of crops, as attested by numerous certificates from well known and intelligent farmers from all parts of the country.

Send for pamphlets, containing Certificates and full directions for use.

Price \$30 Per Ton.

A liberal deduction made to dealers and purchasers of large quantities.

WM. CRICHTON & SON,
GENERAL AGENTS FOR U. S.,

Wood street, Bowly's Wharf,

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BALTIMORE.

PENNSYLVANIA AGRICULTURAL WORKS, York, Pennsylvania.

Wholesale manufacturers of Cultivator Teeth, Plow Steel, Agricultural Castings, Horse Powers, Threshing Machines, Cultivators. Steel Plows, Plow Handles, and standard agricultural implements generally.

Especially attention, of the trade and farming community, called to our celebrated Iron Geared Horse Powers, largely used in the South for ginning cotton, threshing grain, sawing wood, and propelling mills. It is warranted stronger, more durable, and lighter of draught than any other in the Market.

PLOW HANDLES.

Having improved machinery for manufacturing Plow Handles on the largest scale, we can supply the trade at the shortest notice with all sizes of No. 1 Plow Handles.

Address

A. B. FARQUHAR,

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York, Pa.

N. W. SLADE & CO.

PROPRIETORS OF THE

CANTON AGRICULTURAL WORKS,
BALTIMORE, MD.

MANUFACTURERS OF

Agricultural Implements and Machinery,
Improved Double and Triple Screen

DIXIE FANS.

CORN SHELLERS, four sizes; Improved MARYLAND HAY AND FODDER CUTTERS, three sizes.

Southern Giant Cider Mills.

HORSE POWERS and THRESHERS, Improved RICE THRESHERS and FANS, FARM MILLS, for Grinding all kinds of Grain, PLOWS, HARROWS and CULTIVATORS.

Maryland Farmer Steel Tooth Rake.



The only Independent Tooth Rake in the country; each Rake has 20 Steel Teeth. Farmers and dealers would do well to send their orders early.

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SMALL FRUIT INSTRUCTOR.

"What makes it valuable is because it contains so much practical, original matter in such a small space."—JOHN J. THOMAS.

"The directions for growing Strawberries and Raspberries are the best I have ever seen."—HENRY WARD BEECHER.

We could give hundreds of just such testimonials, showing the value of this little work. It should be in the hands of every person, whether the owner of a rod square of ground or a hundred acres. Free agents should have a copy. It contains 40 pages. Price 10 cents. Full price list, wholesale and retail, and also terms to agents and those desiring to get up a club for plants, sent free to all applicants. Parties at the South should order plants in the fall. Address PURDY & JOHNSTON, Palmyra, N. Y., or PURDY & HANCE, South Bend, Ind.

aug-3t

Increased Success of BAUGH'S RAW BONE PHOSPHATE.

The Wheat crop just harvested has been increased by the use of this fertilizer in many instances from 100 to 200 per cent., and the after crop of grass is largely increased for years by its use.

Its value has been demonstrated by thousands of the best Farmers and Planters throughout the South, after a trial of fifteen years.

Full particulars of its manufacture, action and success, can be found in "The Farmers' and Planters' Magazine," distributed by my agents, or I will mail free, a copy to any one sending me their address.

Baugh's Raw Bone Phosphate can be had of dealers at all prominent points.

GEO. DUGDALE, *Manufacturer's Agent,*

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Wheat Seeding 1869.

RHODES' STANDARD SUPER-PHOSPHATE,

The oldest and longest established

STANDARD MANURE.

Price \$50 Per Ton—Bags and Barrels.

ORCHILLA GUANO A A,

A TRUE BIRD GUANO—containing

PHOSPHATE OF LIME.....over 55 per cent.

PHOSPHATE OF MAGNESIA.....near 12 "

PRICE \$30 PER TON—BAGS AND BARRELS.

Dealers and Farmers apply to

B. M. RHODES & CO., 82 South street,

Below Corn Exchange, Baltimore, Md.

CRESYLIC SOAPS
AND
Saponaceous Compounds,
PATENTED.

Manufactured under License solely by

Jas. Buchan & Co.,
190 ELIZABETH ST.,
NEW YORK.

And for sale by Druggists, Grocers, Seedsmen and Dealers.

For the first time available compounds of this acid are offered to the Horticulturist. They are so destructive of fungus and insect life, and so obnoxious to the latter, that both the Horticulturist and the Farmer will understand their value.

The Acid itself will not combine with water, and if mixed mechanically and syringed upon plants, the water runs off, leaving the acid, which scorches and destroys the leaves. Hence the necessity for these Compounds, which not only spread freely over the leaf, but are lasting in its effects. The compound known as

PLANT PROTECTOR,

Is a soluble Soap, easily dissolved in hot water, to which cold water may be added until of the desired strength. For trees, and strong growing plants in open air, 5 lbs. of the Protector to 50 or 100 gallons of water will, as a rule, prove strong enough. For use in-doors a weaker solution will suffice.

Sold in 1 lb. Canisters, at 50 Cents.

3 "	"	\$1.00
5 "	"	1.25
10 "	"	2.25

50 lb. Kegs, at 10.00

Larger packages put up, if ordered, and at less price.

Applied undissolved to the stems of young trees, it will afford complete protection from rabbits, mice, squirrels, &c.

Laundry and No. 1 Soaps,

For use in Scrubbing and in the Laundry.

Carbolic Disinfectant Soap.

For convenient use in washing horses, dogs, cattle, &c., destroying fleas and other vermin, and completely protecting from flies; curative of sores, scratches, and chafes of all kinds. 40 cents per lb.

SHEEP DIP.

For curing scab, and destroying insects on Sheep. Put up in same form, and at same price as PLANT PROTECTOR.

FOOT ROT OINTMENT.

A certain cure for this dangerous pest, in 3 lb. Canisters, at \$1.

CRESYLIC SOFT SOAP.

For floors, bedsteads, jails, hospitals, &c., where insects of any kind are troublesome, or where foul odors, or infectious and malarial diseases prevail. In same package and at same price as the Protector.

Also Staple Soaps of all grades.

FRANK LEWIS,
AGENT FOR MARYLAND,
No. 4 South street, Baltimore.

jan-tf

O'KEEFE'S
LARGE
WINTER HEAD
LETTUCE.

Messrs. M. O'Keefe, Son & Co., the well known and reliable Seed Importers, Growers, and Florists, Rochester, N. Y., having grown and thoroughly tested this new variety for the past three years, now offer it to the public as a FINE AND VALUABLE acquisition for both the market and private garden, as it is ready for use fully

THREE WEEKS EARLIER

Than any other variety of Lettuce, except that grown under glass. It will stand the Winter without protection in the coldest of our Northern climates. It forms very large, solid, exceedingly tender, greenish yellow heads, the outside leaves being of a brownish tinge. Orders for Seed will be received now, to be filled on August 1st, and thereafter, in regular rotation, by mail, in sealed packages, at 50 cents each, and can only be had GENUINE AND TRUE at their establishment. Order immediately of

M. O'KEEFE, SON & CO.,

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ROCHESTER, N. Y.

HENRY GIBSON,
MANUFACTURER OF
TUBULAR DRAINS

In Glazed Stoneware.

ALSO—

DRAIN TILES.

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Baltimore.

Paints for Farmers and Others.

The Grafton Mineral Paint Co. are now manufacturing the Best, Cheapest and most Durable Paint in use: two coats well put on, mixed with pure Linseed Oil, will last 10 or 15 years; it is of a light brown or beautiful chocolate color, and can be changed to green, lead, stone, drab, olive or cream, to suit the taste of the consumer. It is valuable for Houses, Barns, Fences, Carriage and Car makers, Pails and Wooden-ware, Agricultural Implements, Canal Boats, Vessels and Ships' Bottoms, Canvas, Metal and Shingle Roofs, (it being Fire and Water proof.) Floor Oil Cloth, (one Manufacturer having used 5,000 bbls. the past year,) and as a paint for any purpose is unsurpassed for body, durability, elasticity, and adhesiveness. Price \$6 per bbl. of 300 lbs., which will supply a farmer for years to come. Warranted in all cases as above. Send for a circular which gives full particulars. None genuine unless branded in a trade mark, Grafton Mineral Paint. Persons can order the Paint and remit the money on receipt of the goods. Address BIDWELL & CO., sep-6t 254 Pearl Street, New York.

SINCLAIR & CO.,

MANUFACTURERS OF

Agricultural Implements and Machinery,

GROWERS AND IMPORTERS OF

GARDEN AND FIELD SEEDS,

No. 62 LIGHT STREET, Baltimore.

We have on hand the following **PREMIUM LABOR SAVING MACHINES**, which will be sold at all times at the lowest market prices, viz:

SINCLAIR'S PATENT CORN STALK, FODDER and SUGAR CANE CUTTER and MASTICATOR,

Sinclair's Patent Screw Propeller Straw and Hay Cutters,
FOR HAND AND HORSE POWER,

Reading's Patent Horse Power CORN SHELLER and Cleaner,
HAND AND POWER CORN SHELLERS

OF DIFFERENT PATTERNS AND SIZES,

PLANTATION GRIST MILLS, all sizes,

Made from Cologne and French Burr Stones, or Iron Cones.

CORN & COB CRUSHERS & CORN MEAL MILLS Combined.

**"NEW YORKER" SELF-RAKE REAPER AND
REAPER AND MOWER COMBINED.**

This *Reaper* took the Gold Medal at the Great Field Trial held at *Auburn, N. Y.*, in July, 1866, as the best Self-Rake on the ground.

Monitor Mowers---3 Sizes.

This Mower we can recommend as the best in use.

BUCKEYE AND CASES RIDING SULKY CORN, TOBACCO AND COTTON CULTIVATORS.

Maryland Self-Discharging Hay and Grain Rakes,
THE BEST IN USE.

SINCLAIR & CO'S IMPROVED CORN PLANTER,

PRICE'S PATENT PREMIUM COTTON PLANTER,

ALDEN'S PATENT HORSE HOE,

HORSE POWERS, all the different patterns and sizes,

THRASHERS AND SEPARATORS,

THRASHERS AND STRAW CARRIERS,

WHEAT GLEANERS, Revolving Hay Rakes,

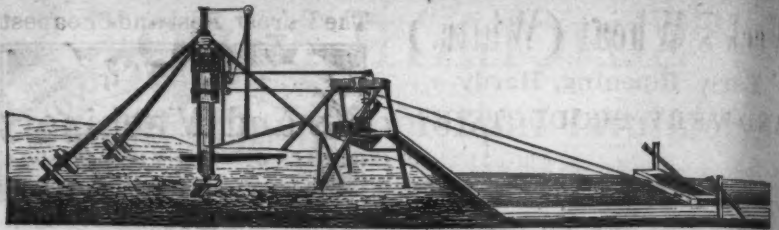
GRAIN CRADLES, with iron brace, our own make. WHEAT and GUANO DRILLS, PLOWS, HARROWS and CULTIVATORS, PLOW and MACHINE CASTINGS.

The above named Machines are our own manufacture, and such as we can recommend with confidence to our friends and customers.

All goods made and sold by us guaranteed to give entire satisfaction.

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R. SINCLAIR & CO.



BRYAN'S AGRICULTURAL MARL AND MUCK LIFTER,
A STRONG AND DURABLE MACHINE, WHICH CAN BE WORKED BY ORDINARY FARM HANDS.

To Raise the Deposit from the Bottom of Ravines, Coves, Creeks, Rivers or other places inaccessible to teams.

It works with facility 170 feet from the capstan; will lift any marl clean of rocks, carting 135 to 150 loads a day.

The late M. Tilghman Goldborough, Esq., of Talbot Co., Md., writing under date of 20th January, 1860, says in regard to this machine:

"I had it worked in the presence of several gentlemen, just to see the 'modus operandi,' and to be satisfied of the power and efficiency of the machine; and two mules of medium size appeared to have sufficient power to deliver on the shore a bucket full, equivalent to a cart load, in about six minutes. The mud at that trial was dropped on the creek bank. The mules were awkward and shy of the strangers present, and the hands were awkward at the novel occupation. We brought on shore about fifteen cart loads, and I feel entirely confident that I shall not be disappointed in the machine when it is put at full and regular work. Some of our farmers who have taken advantage of low tides and ice in the creeks to obtain small quantities of this mud, think it a very valuable manure; indeed that opinion appears to be universal here, but as the machine is of recent invention, and only a few have been erected, there has not been time to test the actual value of the mud as a fertilizer."

Having tested the machine, he writes under date of 27th July, 1860:

"Having successfully tested the working of your Mud Lifter, I have the further pleasure of testifying to the efficacy of the mud. You may remember that in December last, when the machine was first erected, we lifted some twenty loads of mud with it from the bottom of a salt water cove. This was acted on by the frost, and this spring was put on a point of thin land, in my corn field, where I never have had a vigorous crop of any sort, but now the land on which the mud was applied has a dark green, and vigorous growth of corn, entirely superior to the adjoining land, although the land undressed with mud is rather better, and both had the same dressing of shell marl. In this case the mud has had most unmistakably a profitable effect. The land is a yellow clay loam."

For particulars, address

BRYAN & BROTHER,

Care of "American Farmer," Baltimore, Md.

july-

CANFIELD, BRO. & CO.,

229 Baltimore st., Baltimore,

IMPORTERS AND DEALERS IN

FINE WATCHES, DIAMONDS and FINE JEWELRY,

STERLING SILVER WARE,

TRIPLE SILVER PLATED WARE,

A full stock, Spoons and Forks, Cutlery, Clocks, Bronzes and Fancy Goods. Agents for Waltham American WATCHES, in Gold and Silver Cases. Watches Repaired. july-6t

Belmont Stock Farm.

I am breeding thorough-bred Horses, the Imported Percheron Norman Horses, and the Black Hawk Branch of the Morgan Stock, and have geldings of the latter for sale.

My cattle are pure-bred Short-Horns, and have them of all ages for sale.

Also Albemarle Improved Hogs, (a cross of Chester White and Kentucky Woburn,) better suited to rough fare, and the Chester White's the best, when well cared for,

S. W. FICKLIN,
Near Charlottesville, Va.

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Pat'd Water-Proof Paper
Roofing, Siding, Ceiling,
Carpeting, Water Pipes,
Eave Gutters, &c. Address
C. J. FAY & SONS, Camden, New Jersey.

ESTABLISHED IN 1837.

WILLIAM BROWN & SON,
PRACTICAL WATCHMAKERS.

JEWELRY, SILVER and PLATED WARE.

A large and choice assortment of Gold and Silver Watches, Chains, Rings, Pins, Sleeve Buttons, Gold and Silver Pencils, Bracelets, Spectacles, &c.

Jan-1y S. E. Cor. Baltimore and Charles sts., Baltimore.

Gaehle's Piano Manufacturing Company.

(Gold Medal awarded in 1865 by the Maryland Institute.)

MANUFACTURERS OF
GRAND AND SQUARE PIANOS.

N. E. Cor. Eutaw and Fayette sts., Balto., Md.
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Week's Wheat (White.)

Early Ripening, Hardy
AND VERY PRODUCTIVE!

We offer prime seed of this very early White Wheat, which we consider the most valuable variety of recent introduction, combining the hardness and early maturity of the Mediterranean with the high flavoring quality of the best White Wheats. Its straw is stiff, protecting it against the Fly, and it succeeds well on land of moderate fertility, yielding from 25 to 45 bushels, according to soil and season.

PRICES:

1 bushel (sack included).....	\$4.00
2 do do do	7.50
10 do sacks do	36.00

We also offer a fine supply of FRENCH RED AND WHITE CHAFF, EXTRA EARLY JERSEY, ROCHESTER RED CHAFF, LANCASTER RED CHAFF, by the bushel and sack, and a number of other varieties in limited quantity.

Descriptive Priced Circular mailed FREE to applicants.

EDWARD J. EVANS & CO.,

Nurserymen and Seedsmen,
York, Penna.

aug-31

NURSERIES OF W. F. HEIKES.—We offer for the Fall trade the largest and most complete stock of well-grown Nursery Articles ever offered in this section. Some articles, as usual, take their place as Specialties, among which are the following: Standard Peaches, Golden Dwarf Peaches, Plums, Jonsson Plums, Cherries, Currants, Gooseberries, and Horse Plum Seedlings. Of this last, which is the best stock for Plums, we are believed to have the largest lot ever grown in the United States.

BUDS of Golden Dwarf Peach and other fruits to spare in abundance. Nurserymen, Dealers and Planters are invited to correspond for terms. Address (with stamp),

W. F. HEIKES, Dayton, O.

aug-31

The Episcopal High School,

Established in 1839,

Beautifully and healthfully situated three miles west of Alexandria, Va., fits boys for business or college. Pupils received from the age of nine. Deductions made for ministers and for persons sending two pupils. For circular address the Principal.

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REV. WM. F. GARDNER.

FRANK LEWIS,

General Commission Merchant

For sale of Grain, Cotton, Tobacco and Country Produce, and for purchase of all articles required by Farmers.

Agent for Buchan & Co's

CRESYLIC AND CARBOLIC COMPOUNDS;

destructive of insect and fungus life and perfect disinfectants.

aug-17

No. 4 SOUTH ST., Baltimore, Md.

PEACH TREES. FALL OF 1899.

A large stock of PEACH TREES of standard and market varieties, such as Hale's Early, Troth's Early, Large Early York, Crawford's Early, Old Mixon Free, Stamp the World, Crawford's Late, Ward's Late Free, Late Rare-ripe, Smock and Salway; Van Baren's Golden and Italian Dwarf. Also a general Nursery Stock of Fruit Trees, Small Fruits, Vines, &c. Price list furnished on application.

aug-31

THOMAS J. PULLEN,

Successor to Isaac Pullen,
Hightstown, New Jersey.

Premium Chester White Pigs,
Thorough-bred Stock, and Domestic and Ornamental Fowls for sale. For circulars and price address

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N. P. BOYER & CO.,
Parkesburg, Chester Co., Pa.

The Purest, Best and Cheapest



SOLD BY ALL GROCERS.

aug-17

PRINDLE'S AGRICULTURAL STEAMER,

FOR

FRUIT GROWERS,
STOCK FEEDERS,
DAIRYMEN, &c.

This Steamer has now been in use for several years, is perfectly safe, and a most complete invention for

Cooking Food for Stock, Scalding Hogs,

And for GENERAL CULINARY PURPOSES.

Mr. S. L. Hyatt, of Huntingdon, Pa., writes: "I use my Steamer chiefly in the canning of fruit; it answers the purpose to my fullest expectation, * * * and would not be without one at double its cost."

Messrs. Frank L. Morling and Chas. W. Beatty, of this city, have each a Prindle Steamer in use "for six months past," of which they speak in the highest terms as to its great value for cooking, steaming and boiling purposes, and say they would not be without them.

The Steamer is for sale by

EDMUND WOLF,

31 Light street, Baltimore.

Send for Circular.

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1,500,000 ONE YEAR OLD APPLE,
Cherry, Plum, Standard and Dwarf Pear Trees for sale, Fall of 1899, at very low rates. Any Farmer can grow this stock to Orchard size at a very small expense. Nurserymen can make from 3 to 500 per cent. to grow this stock two years. For a man starting in the nursery business or any Nurseryman that wants to buy stock, this is the right kind of stock to buy. Prices: Pear and Cherry Trees, 4 to 12c.; Apple, 2 to 6c. We offer also a full assortment of all kinds of Nursery Stock. For description of stock, price list, &c., address

E. MOODY & SONS,

aug-31 Niagara Nurseries, Lookport, New York.

AMERICAN AND IMPORTED

Seed Wheat and Grass Seed FOR SALE.

Send for a circular giving descriptions and prices of the best varieties of American and European Seed Wheat and Grass Seeds. Address

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N. P. BOYER & CO.,
Parkesburg, Chester Co., Pa.

ORTON'S Preparation

ESTABLISHED 1866.

The Appetite for Tobacco Destroyed!

LEAVE OFF CHEWING AND SMOKING THE
POISONOUS WEED, TOBACCO!

One box of Orton's Preparation is warranted to destroy the appetite for Tobacco, in any person, no matter how strong the habit may be. *If it fails in any case the money will be refunded. It is perfectly safe and harmless in all cases.* It is almost impossible to break off the use of Tobacco by the mere exercise of the will. Something is needed to assist nature in overcoming a habit so firmly rooted. With the help of the Preparation, there is not the least trouble. *Hundreds* have used it who are willing to bear witness to the fact, that Orton's Preparation completely destroys the appetite for Tobacco, and leaves the person as free from any desire for it, as before he commenced its use. The Preparation acts directly upon the same glands and secretions affected by Tobacco, and through these upon the blood, thoroughly cleaning the poison of Tobacco from the system, and thus allaying the unnatural cravings of Tobacco. *No more hankering for Tobacco after using Orton's Preparation.* Recollect it is warranted.

The time taken to allay all desire for Tobacco by the use of the Preparation varies *slightly* in different persons, the average time being about *five* days. Some have no desire for Tobacco whatever after using the Preparation *Two* days.

The *Health and Purse* of every Tobacco user in the country calls loudly, **ABANDON THE USE OF TOBACCO.**

RECOMMENDATIONS.

The following are a few selected from the multitude of recommendations in our possession:

We, the undersigned, hereby certify that we have used Orton's Preparation for the purpose of destroying the appetite for Tobacco, and can assure those who are suffering from this habit that Orton's Preparation will certainly destroy the appetite for Tobacco *quickly and permanently*, and without creating any bad effect upon the health, and without creating an appetite *either for the Preparation or any Substitute.*

Rev. S. M. ANDREWS, Colebrook, N. H.; Rev. E. B. CROUSE, Tiffin, Ohio; Rev. H. LONGBRACK, Leary, Ohio; Rev. ISAAC CROUSE, Marion, Ohio; JOHN EYFNER, Marion, Ohio; K. W. LEIGHTON, Portland, Maine; E. W. ATKINS, Knoxville, Tenn.; WALES BARRETT, Lamolille, Illinois; J. P. DAY, Rariton, Illinois.

Beware of Counterfeits and all articles purporting to be like this, of the same name or otherwise. The great popularity of Orton's Preparation has induced unprincipled persons to attempt palming upon the public counterfeit and inferior articles. **Purchasers will please order directly from the proprietor, or his duly authorized Agents.**

The price of Orton's Preparation is \$1.00 per box, or six boxes for \$5.00, sent by mail to any part of the country, *securely sealed from observation*, with passage paid on receipt of price.

How to Send Money by Mail.—Enclose the amount in a letter, seal carefully, register the letter and take a receipt for it of your Post Master. Money sent by mail as above directed at my risk.

Address E. DOUGLAS, Proprietor,
Box 1572, Portland, Maine.

July-84 PATENT APPLIED FOR.



THE ONLY RECOGNIZED STANDARDS IN CANE
MACHINERY are the Cook's Evaporator and the

VICTOR CANE MILL.

17,000 COOK'S EVAPORATORS are in use, and
10,000 VICTOR CANE MILLS, all warranted.

AWARDS.

Cook's Evaporator, 1st Premium at 60 State Fairs!
Victor Cane Mill, (introduced in 1863,) First Premium
at 37 State Fairs!

Both First Premiums at Louisiana Fair, New Orleans,
1888, for WORKING SOUTHERN CANE.

All attempts thus far to equal these unrivaled machines
by other contrivances, have

SIGNALLY FAILED ON TRIAL.

Farmers can't afford to risk crops of Cane on Mills that
BREAK OR CHOK, or Evaporators that do SECOND CLASS
WORK and ONLY HALF ENOUGH at that.

"While scores of new fangled inventions have come
up, had their day, and subsided, the "Cook" goes right
along, constantly increasing in reputation."—PRAIRIE
FARMER.

"Successful trial for years has given the COOK EVAPORATOR and VICTOR CANE MILL a decided reputation for superior excellence; we can heartily recommend them."
—AMERICAN AGRICULTURIST.

The *Sorgo Hand-Book* and Descriptive Circulars sent
free.

BLYMNER, NORTON & CO., Cincinnati, O.
BLYMNER, DAY & CO., Mansfield, O., BLYMNER, FRANKING & CO., Chicago, Ill.

Manufacturers of the

VICTOR GRAIN DRILL AND BUCKEYE THRESHER.

aug-21

LISTEN TO THE MOCKING BIRD.—The Prairie Whistle and Animal Imitator can be used by a child. It is made to imitate the songs of every bird, the neigh of a horse, the bray of an ass, the grunt of a hog; birds, beasts, and snakes are enchanted and entrapped by it. Is used by Dan Bryant, Charley White, and all the Minstrels and Warblers. Ventriloquism can be learned in three days by its aid. Sent anywhere upon receipt of 25 cts.; three for 50 cts.; \$1.25 per dozen.
Jy-34 T. W. VALENTINE, Box 572, Jersey City, N. J.

50,000 Maria Perla de las Antillas Havana Concha Cigars.

Packages of 1000. Manufactured of genuine Yucatan Abajo Tobacco of our own importation. A full flavored Havana Cigar. Well seasoned. Sample boxes of 100 sent by Express at \$5. C. O. D., free of expense.

G. H. BOLENIUS, 202 W. Pratt street,
July-1y P. O. Box 1374, Baltimore, Md.

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With an Agent residing in Paris, I can, at my Store,
CONSERVE OF WATER AND GALLEY STAIRS, supply Dealers
at all times with new patterns; and where all kinds
of Watches and Jewellery will be repaired.

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COMPLETE MANURE,**

MANUFACTURED BY
HENRY BOWER, Chemist,
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MADE FROM

Super-Phosphate of Lime, Ammonia & Potash.
WARRANTED FREE FROM ADULTERATION.

This Manure contains all the elements to produce large
crops of all kinds, and is highly recommended by all
who used it, also by distinguished chemists who have,
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Packed in Bags of 200 lbs. each.

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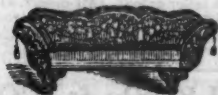
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**Cabinet Furniture,
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AND

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FACTORY, No. 6 LOW STREET,

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WEST'S
Improved
Double-Acting, Anti-Freezing,
FORCING AND LIFTING
PUMP.
ADAPTED FOR
Shallow or Deep Wells, Cisterns, and
House Purposes;
For Filling Tanks and Reservoirs,
&c., &c.
Warranted to be the cheapest and
most durable Pumps in use.
FIRST PREMIUMS
Received at the State Fairs in New York, Balti-
more, St. Louis and Richmond.
Circulars and Price-Lists sent by mail on
application. **A. REUTER & SONS,**
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MATERIAL
IN ALL VARIETIES.
DOORS SASHES BLINDS
FRAMES MOULDINGS MANTLES
WILL C. HUTCHENS
No 69 S. CHARLES ST.
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Shell Lime,

FOR BUILDING OR AGRICULTURAL PURPOSES,

For Sale in any quantity,

AT MY KILNS,

Back Basin; and Pennsylvania Ave.

NEAR ROSS STREET.

The undersigned is prepared to deliver on board of
vessels, or at any railroad depot in the city.

A liberal commission allowed merchants on orders.

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BALTIMORE.

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W. H. OLER.

FERTILIZERS.

Fine Ground Bones, Foudrette, Baynes' Fertilizer,
GUANOS, PHOSPHATES, GROUND PLASTER, LIME,
And all kinds of FERTILIZERS, for sale by

THOS. BAYNES,

No. 129 McElderry's Wharf,

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THOMAS NORRIS & SON,
 MANUFACTURERS AND DEALERS IN
Agricultural Implements and Machinery,
 141 PRATT STREET, BALTIMORE,
 Keep constantly on hand a good stock of the most useful Implements and Machinery of every description. They continue to keep on hand the following valuable Machinery:
WESTINGHOUSE THRESHERS and CLEANERS,
 Pelton's Horse Powers of the best make,
Bickford & Huffman's GRAIN & GUANO DRILLS,
 THE BEST IN THE COUNTRY,
 Novelty Horse Rakes on Wheels, very good,
 The well known *VAN WICKLE WHEAT FANS,*
 Also, *MONTGOMERY'S ROCKAWAY FANS,*
HARROWS, PLOWS, CULTIVATORS, &c., &c.
Fresh and Genuine FIELD and GARDEN SEEDS.
FERTILIZERS, GUANOS, BONE DUST.

SEND FOR A PRICE LIST.

We are prepared to repair, in best manner, Bickford & Huffman's Drills, Wood's Mowers and Reapers, Westinghouse Threshers and Cleaners.

THOMAS NORRIS & SON,
 141 Pratt street, Baltimore.

july-1f



(KEEP FOR REFERENCE.)

DIRECTIONS FOR MEASURING.

COAT.

Length.....	from 1 to 2 and 3	Around the Waist under the Coat.....	1
Arm.....	4 to 5 and 6	Height.....	ft. in.
Around the Breast under the Coat.....	7	Weight.....	lbs.

VEST.

Length, from 1 to 13, with last two Coat Measures.

PANTALOONS.

Outside Seam from top of Waistband.....	10	Around the Waist under the Coat.....	1
Inside Leg Seam from Crotch.....	12	Around the Hips under the Coat.....	14

SHIRTS.

Around the Neck under Cravat, 16, with all the Coat Measures.

Gentlemen at a distance can order their Clothing by the above system of measurement, which can be taken by any one, whether a tailor or not. All orders will have prompt and careful attention, and be filled with strict reference to the well-earned reputation of the House for **TASTEFUL and SUBSTANTIAL Clothing.** Prices guaranteed to be lower than Merchant Tailoring Establishments generally. Samples of Materials, with prices sent by mail, when desired.

NOAH WALKER & CO.
Wholesale & Retail Clothiers,
 Washington Building,
 Baltimore St. bet. Calvert and Light Sts.
 Opposite Adams' Express Office,
BALTIMORE, MD.

A FINE STOCK OF
GENTLEMEN'S FURNISHING GOODS.

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The Farmers' Favorite.

GREATLY IMPROVED.

BICKFORD & HUFFMAN'S

WORLD RENOWNED PREMIUM

GRAIN DRILL,

WITH THE

IMPROVED GUANO ATTACHMENT AND GRASS SEED SOWER.

Patented April 22, 1856.

Patented May 18, 1858.

Patented Aug. 18, 1858.



New Patent Mar. 19, '67,

OF THE

CONTINUOUS

Grain Distributor.

The Desideratum of Seeders!

Perfect in Mechanical Construction!

Perfect in its Performance of Work!

Sowing all grains, from the coarsest Marrowfat Peas to the finest kernalled, with accuracy. Thistle balls and dirt do not clog it. Seeding an even continuous stream through each tube; performing equally well up hill or down, side hill or level.

No Bunching of Grain!

No Liability to Get Out of Order or Broken!

Built as a plain Grain Drill or with Compost or Seed Attachment.

PRICE OF THE BICKFORD & HUFFMAN DRILL,

Delivered on Boat or Cars at Baltimore.

8 Tube Grain Drill	\$85 00
9 " " "	90 00
8 Tube Grain Drill, with Guano or Plaster Attachment.....	125 00
9 " " " "	130 00
Grass seed attachment to either of the above.....	10 00

TERMS CASH—or endorsed Notes, due in four months, with interest.

Purchasers in all cases pay freight from Baltimore.

For one of these incomparable Machines, address

W. L. BUCKINGHAM,

GENERAL AGENT,

No. 59¹/₂ South Charles street,
BALTIMORE, MD.

THOMAS NORRIS & SON,
 MANUFACTURERS AND DEALERS IN
Agricultural Implements and Machinery,
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 THE BEST IN THE COUNTRY,

Novelty Horse Rakes on Wheels, very good,
 The well known *VAN WICKLE WHEAT FANS,*
 Also, *MONTGOMERY'S ROCKAWAY FANS,*
HARROWS, PLOWS, CULTIVATORS, &c., &c.

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FERTILIZERS, GUANOS, BONE DUST.

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THOMAS NORRIS & SON,
 141 Pratt street, Baltimore.

july-17



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GENERAL AGENT,


No. 59½ South Charles street,
BALTIMORE, MD.

AMERICAN FARMER—ADVERTISER.

**AMERICAN FARMER
PURCHASING AGENCY,
FOR THE CASH PURCHASE OF
FERTILIZERS,
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MACHINERY,
TREES, PLANTS,
And SEEDS,
And other articles required by Farmers and Planters.**

 Without Charge of Commission to our Subscribers.

Having no personal interest whatever in any of the above mentioned, we are enabled to make unbiassed selection, and we will purchase from such sources only as are believed to be entirely reliable.

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WM. CRICHTON & SON'S Ammoniated Soluble SUPER-PHOSPHATE OF LIME.

Containing 50 PER CENT. of BONE PHOSPHATES—of which
12 per cent. is immediately Soluble in Water—3 per cent.
of Ammonia, 3 per cent. of Potash, Sulphuric
Acid, Magnesia, &c., &c.

Furnishing the Essential Elements of WHEAT, CORN, TOBACCO, COTTON,
and of all Cereals which are removed from the soil in every crop.

TO AGRICULTURISTS.

We have established a manufactory in this city upon an extensive scale, with the appliances of steam and with every recent improvement in machinery for grinding, mixing and thoroughly combining the various chemical constituents now well ascertained as forming the elements of a first-class fertilizer, and absolutely required to build up the truly vegetable part of the plant, and restore to the soil the elements of direct "PLANT FOOD," which previous crops may have drawn from it, and which can be relied upon for uniformity, containing the valuable properties claimed for it, and at a LESS PRICE than any other similar manure offered in this market.

Extracts from Letters from parties who have used this Fertilizer.

From Rev. S. A. Gayley,
COLORA, Cecil Co., Md., June 20, 1869.

Messrs. Wm. Crichton & Son—Dear Sirs: Your "Ammoniated Soluble Phosphate" I regard as the best manure I have ever used. I dressed a lot of corn with it in the hill, putting one bag on two and one-eighth acres by actual measurement, [you will see that the allowance to each hill was very small.] It has acted like a charm. That lot of corn is the best in the neighborhood of any planted at the same time.

From what it has done for me I give it the preference to any I have ever tried.

Yours respectfully,

S. A. GAYLEY

OAKVILLE, St. Mary's Co., Md., July 12, 1869.

"I applied your 'Ammoniated Super-Phosphate' on wheat and oats—top dressed the wheat.

The crops, where it was used, show a decided improvement, and present at this day a remarkably fine appearance.

I am perfectly satisfied with its effects, and its comparatively low price will induce me to use it again next season."

Yours truly,

W. O. REEDER.

ANNAPOLIS JUNCTION, Md., July 31, 1869.

"I used the 'Ammoniated Super-Phosphate,' manufactured by you, with the greatest success on my wheat and vegetable garden.

I planted corn with it last May, and from present appearance it will not be surpassed by any in my country. I prefer your combination of Plant Food to Peruvian Guano, even at same cost."

A. P. GORMAN.

PAW PAW, Morgan Co., W. Va.,
June 27, 1869.

"It gives me great pleasure to let you know that my wheat, upon which I applied your fertilizer, last fall, is very fine. I used it entirely on corn stubble, and it is better than any I ever had or ever saw. It will, I am certain, yield over 20 bushels per acre.

I applied it on oats and corn in the spring, using about 200 pounds per acre on each, (stiff clay land.) The Oats will double, I think, while the corn I never saw anything to equal it.

I planted about 10th May, using a handful to two hills of corn, and after it started it seemed incredible to see it grow. It is now waist high, while on a highly manured piece of land by its side it is not over six inches."

Yours respectfully,

N. N. CLABAUGH.

CENTRE CROSS, Essex Co., Va.,
July 27, 1869.

"In relation to your Guano, I take pleasure in stating that I regard it as a valuable fertilizer. I used about two hundred pounds per acre on Oats which, notwithstanding the excessive drought, produced 25 to 30 bushels per acre.

The corn upon which this fertilizer was applied at the same rate looks stout, vigorous and promising, and the 'oldest inhabitant' does not claim to have ever seen a more flourishing sweet potato and watermelon patch than I have this season, from the use of a handful of this manure to the hill."

Truly yours,

E. P. W. FAUNTLEROY.

Put up in Strong Bags, 167 Pounds in each. Price \$50 per Ton.

Send for Pamphlets, containing full directions and Certificates.

WM. CRICHTON & SON, Sole Manufacturers,
WOOD STREET, BOWLY'S WHARF,
(Opposite Corn Exchange,) BALTIMORE.

ZELL'S AMMONIATED BONE SUPERPHOSPHATE,

For Wheat, Rye, Corn, Oats, Potatoes,
Turnips, Cabbage, Grass, Cotton, Tobacco, &c.

Permanently improves the Soil. Quick and active as Peruvian Guano.

For this Valuable Fertilizer, we only ask a trial side by side with any in the market to attest its superiority.

P. ZELL & SONS,

39 SOUTH STREET, Baltimore, Md.

Price \$60 per ton, in Bags or Barrels, at Baltimore.

For sale by Agents and Dealers throughout the Country. sep-21

POOLE & HUNT, BALTIMORE,

MANUFACTURERS OF

STEAM ENGINES AND BOILERS,

STEAM FIRE ENGINES,

LEFFEL'S

PATENT AMERICAN

DOUBLE TURBINE

WATER-WHEEL

MORRELL'S

DEEP WELL & FORCE PUMP,

Saw Mills, Mining Machinery, Portable Grist Mills,

ROBERTS' BURR REGULATOR,

Flouring Mill Machinery, Cotton Screws, Shafting, Pulleys and Hangers.

SEND FOR CIRCULARS.

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